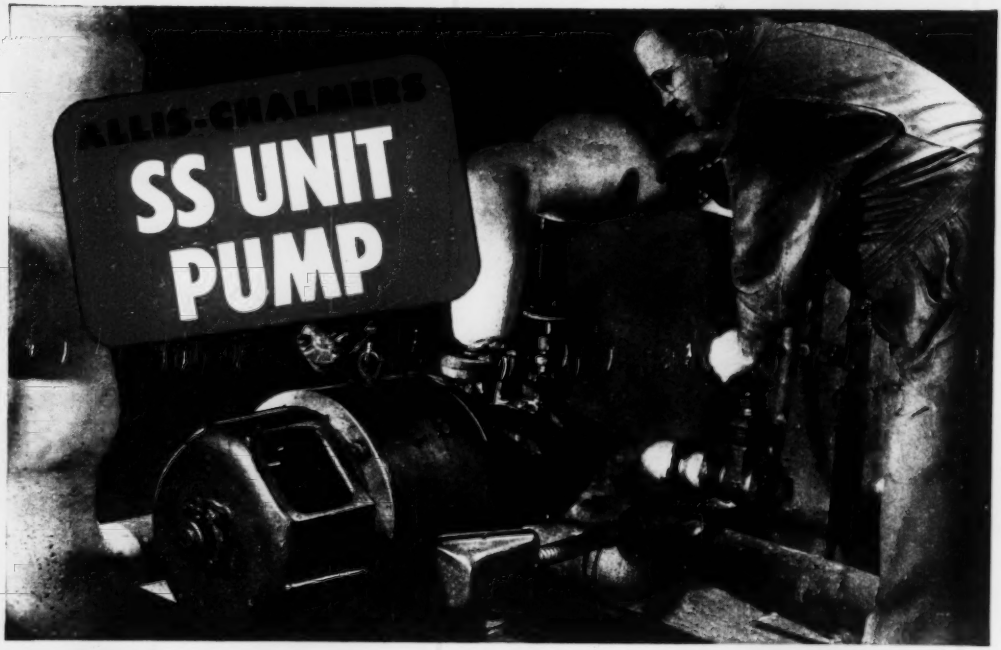
ENGINEERING NEWS-RECORD

FEBRUARY 10, 1949

Enoch R. Needles, bridge and road engineer, heads the American Road Builders' Assn.

A McGRAW-HILL PUBLICATION



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"Our *old* displacement pump required 15 hp motor to raise 100 gpm 110 ft to roof tanks. *Now* this A-C SS Unit Pump Lifts 150 gpm to same tanks with only a 10 hp motor!"

THAT'S THE EXPERIENCE, along with worthwhile savings in space and maintenance, reported by the chief engineer of a large commercial building.

It is the kind of saving that you, too, may be able to make with Allis-Chalmers SS Unit Pumps. Here are 4 reasons why:—

Deliver Rated Efficiencies — Every unit tested at the factory and the performance curve plotted. Efficiency is proved.

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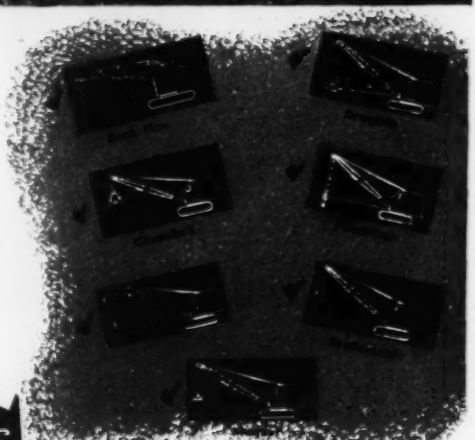
Buckeye Clipper IS A 16 IN 1 MACHINE

WITH EVERY FEATURE YOU DESIRE

CHECK the Buckeye Clipper against ¾ yd. shovels in the field. You will find wrapped up in this single unit all of the features that owners and operators desire.

Exclusive Mevac vacuum power control assures smooth, fast acceleration. No long levers to tug with Mevac control. Buckeye Clippers are a standout for dependability and accuracy.

Dual right angle drive cuts out chain whip and breakage. Better traction from wide, self-cleaning, non-clogging crawlers. Sturdier drum, swing and crowd-propel shafts arranged to better utilize power. Fast acting vacuum power dipper-trip. All this plus 16 time-saving front end conversions is the reason Buckeyes outperform, outmaneuver, outlast!



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Crane, Orange Peel Bucket, Rock Grapple, Log Grab, Concrete Bucket, Hook Block, Steel Plate Tongs, Pipe Boom.

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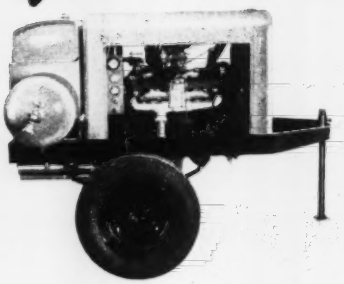

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. . A new SMITH Compressor with more capacity, smooth operation, economy . . long life!

Powered with a famous CHRYSLER Industrial Engine—3 cylinders for power—3 for compression. Evenly spaced power impulses. Capacity 70 cu. ft. at 80 lbs. pressure. Throttle operates about ⅓ open when operating at 150 lbs. pressure. Built for heavy duty without excess bulk and weight. Engine parts available at Chrysler, DeSoto, Dodge truck dealers.

Write for complete facts about the SMITH Model 250!

Smith **AIR COMPRESSORS**

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ENGINEERING NEWS-RECORD

VOLUME 142 FEBRUARY 10, 1949 NO. 6

WALDO G. BOWMAN
Editor

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THE COVER PICTURE

A bridge engineer who has also engineered a complete $20,000,000 highway project—the Maine Turnpike—as well as handled redistribution and salvage of construction machines and material for the Army during the war, was seated this week as president of the American Road Builders' Association.

The engineer is Missouri-born Enoch R. Needles, a partner in the New York and Kansas City consulting firm of Howard, Needles, Tammen and Bergendoff. An engineering "team player," he prefers to be known as a member of the firm, rather than for personal accomplishment.

The firm has always devoted itself to bridge engineering, and its efforts have taken shape in major structures, both fixed and movable, on many large U. S. rivers. It is now engaged in building the $40,000,000 bridge over the Delaware river at Wilmington. Early in the war, the firm handled the design and construction of two Midwest ordnance plants, and on both Mr. Needles served as the resident partner.

Mr. Needles was commissioned in the Corps of Engineers in December, 1942, returning to civilian life in 1945 as a full colonel. His wartime service took him to the invasion beaches of Normandy. Special assignments included attendance at the Quebec Conference in 1943, study of artificial harbors for Normandy and Japan invasions.

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February 10, 1949 ENGINEERING NEWS-RECORD Vol. 142 No. 6

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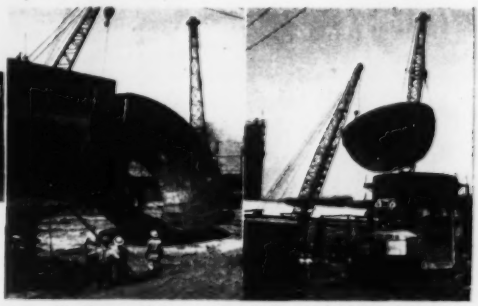
Building a SPHERICAL VACUUM FLASHER for the Shell Oil Company Refinery at Wood River

An alloy-steel clad sphere, 30 ft. in diam., is erected to flash 34,300 bbls. of crude oil daily to twin refining units

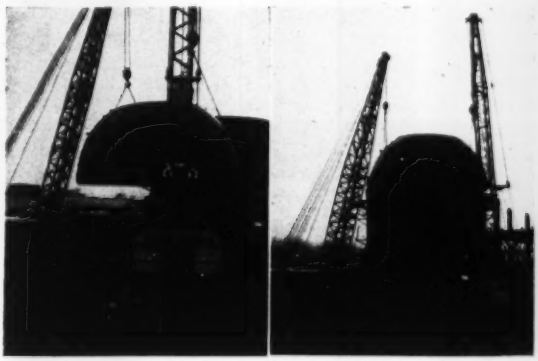
The two halves of the sphere were welded on the ground.



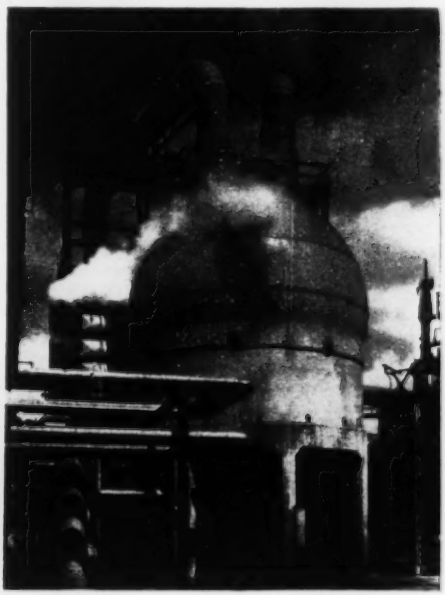
The bottom half of the sphere was lifted by two cranes (left) and set in position on a supporting ring wall (right).

Pictured in the surrounding views is the step-by-step field erection of a special steel plate structure—part of the modernization program of a large petroleum refinery. A spherical flasher was erected, instead of a conventional cylindrical chamber, in view of unusual demands for high throughput, long periods of uninterrupted operation, and accessibility for maintenance. The sphere has internal baffling which separates vapor and liquid, and a sump to collect residues. It operates at 60 mm. Hg. absolute pressure.

The Shell vacuum flasher is one of the many "custom" installations for which we have built spherical pressure vessels, some of the others being acid accumulators for pulp production and spherical gas holders (Hortonspheres) for chemical processing. When you need structures of this kind, write our nearest office for details.



The top half of the spherical flasher was picked up by two cranes (left), and landed in position (right) on top of lower half.



Completed sphere in operation. Flashed gas oil is taken off overhead to twin refining units through the two vapor lines.

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Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY, and GREENVILLE, PA. — In Canada: HORTON STEEL WORKS, Limited, FORT ERIE, ONT.

Can you afford to bid 33% higher?

No contractor wants to be in this position when "close figuring" is in order. That's one reason so many experienced contractors are using ARMCO Corrugated Metal Pipe on drainage jobs. They have found the cost of installing short, sectional pipe requires higher bids for adequate profits.

Figured on an installed basis ARMCO Pipe saves money in many ways. Flexible, corrugated metal design assures ample strength without excess weight. This means low handling and hauling costs. Job costs are low because unskilled labor quickly and easily makes the installation. There is no breakage, no curing, no waste, no delay.

Individual sections of standard ARMCO Corrugated Pipe and PIPE-ARCH are supplied in any length that can be hauled and handled. No large and expensive equipment is required for installation. A few men with a rope sling or a small A-frame can handle the largest structure. Connections are made with simple band couplers. Where end finishing is needed, prefabricated ARMCO End Sections are simple to install.

Use ARMCO Drainage Products on highways, railways, airports and wherever else you need economical, easy to install drainage structures. Write for complete data. Armco Drainage & Metal Products, Inc., 815 Curtis Street, Middletown, Ohio.

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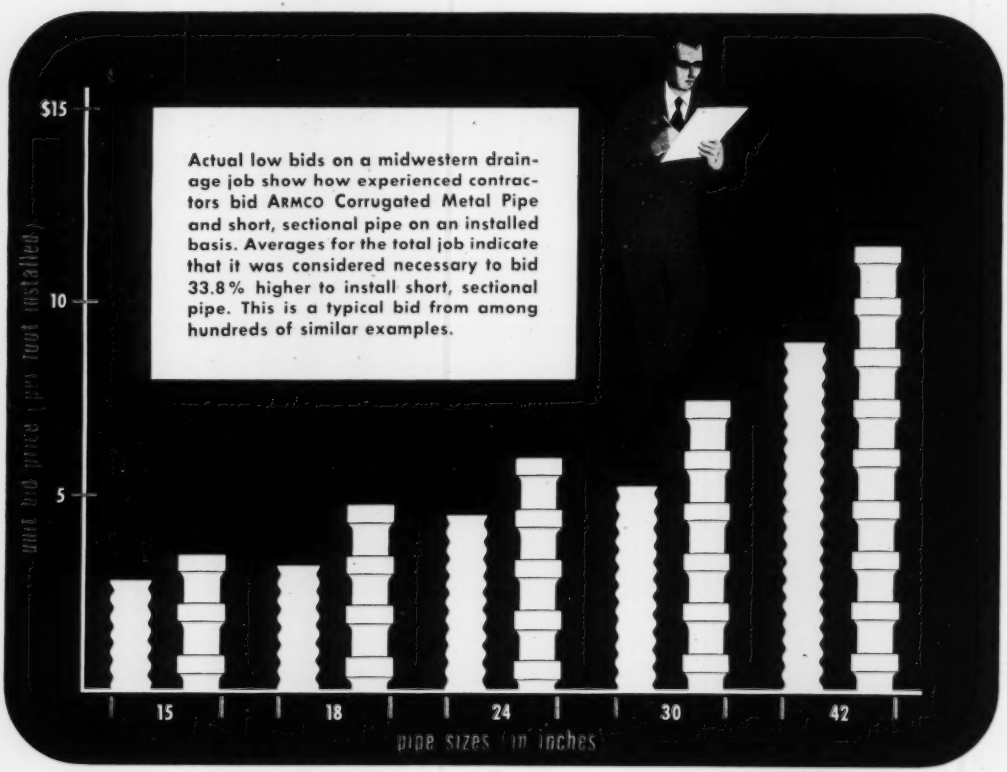
ARMCO CORRUGATED METAL PIPE


$15
10
5
unit bid price (per foot installed)
Actual low bids on a midwestern drainage job show how experienced contractors bid ARMCO Corrugated Metal Pipe and short, sectional pipe on an installed basis. Averages for the total job indicate that it was considered necessary to bid 33.8% higher to install short, sectional pipe. This is a typical bid from among hundreds of similar examples.
15
18
24
30
42
pipe sizes (in inches)

THE CONSTRUCTION WEEK

AID TO CHINA, ANYWAY—Despite the extremely confused Chinese political situation—and despite the verbal indecision of some of its own leaders—ECA has apparently decided to continue some of its promised aid to China. Nobody confirms or denies. But four transportation engineers representing the F. H. McGraw Co. left New York by air last week to begin a $110,000 pre-project survey of work needed to rehabilitate Nationalist China's sadly dilapidated railroad system. Months ago, ECA announced the appointment of a U. S. firm—the J. G. White Corp.—to act as engineer-manager for a $70,000,000 railroad rehabilitation program (ENR Oct. 14, p. 77), but since then, various top executives of the agency have issued conflicting statements as to whether the aid to China would continue in view of Communist military gains. Impression from these statements has been that ECA would "wait and see" before committing any funds. The waiting period is apparently over.

140-MILE CONVEYOR BELT?—A seemingly fabulous scheme for a 140-mile-long, two-way conveyor belt to carry ore one way from Lorain, Ohio to East Liverpool (downriver from Pittsburgh); and coal on the return trip, has gone a lot further than dreams. Officials of the Akron, Canton and Youngstown RR are reported ready to ask the Ohio legislature for a special right-of-way for the "belt line's" initial route. A spur is planned later to connect the belt with Cleveland.

MORE WORK ABROAD—President Truman is enthusiastic about using U. S. technical brains and industrial skills to raise standards of living in the underveloped areas of the world. He really regards this Point No. 4 of his inaugural address as the touchstone of his four-year term as President. Despite this, he has no plan mapped out to put the idea into effect. What will happen may be this: (1) A study group under Secretary Acheson will come up with a plan for financing, registry of technicians and United Nations participation; (2) technicians will be sent to selected countries to study their needs: changes in farming practice, irrigation, flood control,-transport, etc.; (3) then U. S. (and UN) assistance will be offered the countries, private money going into the scheme when the time is ripe.

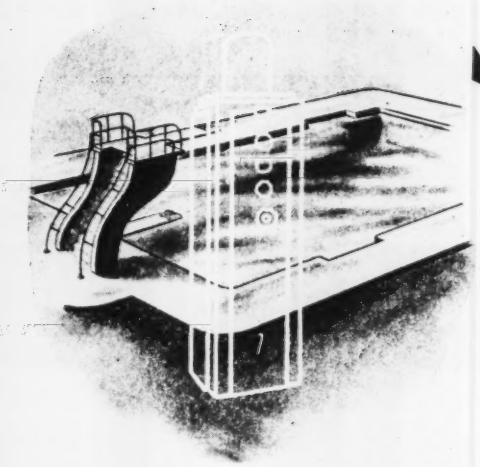
"GRAY" PLYWOOD OUT—Recent sharp increases in fir plywood production is believed to have caught many of the shadier operators with large stocks that they can't sell at exorbitant prices. Result: The so-called "gray market" in plywood is out, or on its way out.

EVEN MONEY ON CVA—Congressional sponsors of a Columbia Valley Authority (ENR Feb. 3, p. 47) give their measure a 50-50 chance of approval at this session. They feel that the President's announced support will give this mechanism for spending more in the Northwest than the budget allows the push it needs to get through—but they're mindful that the whole thing may be used as a trading point to gain approval of more important parts of Truman's program.

OIL FROM GUATEMALA—If current negotiations between Guatemala and Standard Oil of Ohio are successful, that company will launch a $25,000,000 oil-drilling project in northeastern Guatemala, about 50 mi. from the coast. Based on gravity meter tests for oil which have been conducted since December 1947, the company plans on drilling within a 2,000,000-acre area. First construction will be a jungle airport, since all equipment must be flown in. Runways probably will be pierced-metal-plank. Eventually, an 80-mi. pipeline will be built from the interior probably to the seacoast town of Puerto Barrios. Since the venture is such a gamble, the initial agreement is based on Standard Oil of Ohio getting 7% of all the oil it drills.

ALUMINUM FOR CANADA—A second huge aluminum plant is in prospect for British Columbia, if current talks on site and power supplies are successful. Builder would be the Reynolds Metals Co., which is currently proposing a plant to produce a billion pounds of aluminum yearly, which would require a 1,000,000-hp. hydro development.

ERP COMES HOME—As the European Recovery Program gains headway, greater competition can be expected from foreign manufacturers in the U. S. equipment market. For example, Cleveland, Ohio awarded a contract last week to the Brown Boveri Corp., of Switzerland, for furnishing and installing two 25,000-kw. turbo-generators at the municipal light plant. U. S. manufacturers, bidding on the work, wanted the city to reject all bids and revise the specifications to include a "domestic preference" clause. But the city made the award to the Swiss concern, since its bid of $1,140,000 was nearly $400,000 less than the lowest U. S. bid.



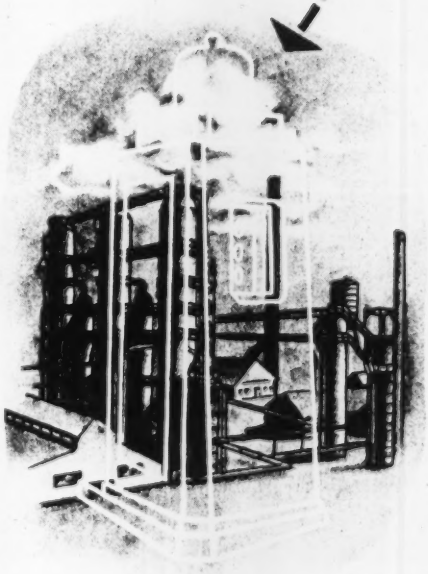
From Swimming Pools to Oil Refineries...

THERE'S A W&T CHLORINATOR TO FIT EACH JOB

Whether you need chlorination for killing pathogenic bacteria in water works, sewage plants and swimming pools — for slime control in oil refineries, power stations and paper mills — or for any of its many other uses in both public health and industrial fields, you can be sure that there's a W&T Chlorinator exactly right for each job.

Wallace & Tiernan Chlorinators are designed and built to meet the highest standards of precision manufacturing. There is no compromise with quality. That's one reason the famed Visible Vacuum Principle is known the world over. In addition, when you rely on chlorination by W&T, you can be sure of receiving an installation especially engineered, by a staff of experts on water treatment, to meet your job's particular needs. Each installation is handled as a specific project because W&T men know that rule-of-thumb methods won't give successful chlorination.

For your next installation, call your nearest W&T Representative and have him check your treatment requirements. There's no obligation and he will be glad to recommend a practical, workable solution to the problem that will leave both you *and* your client happy.



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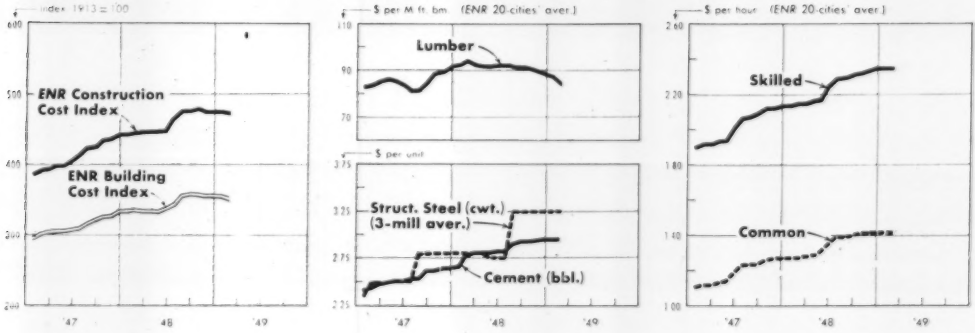
S-37

FEBRUARY CONSTRUCTION BUSINESS REPORT



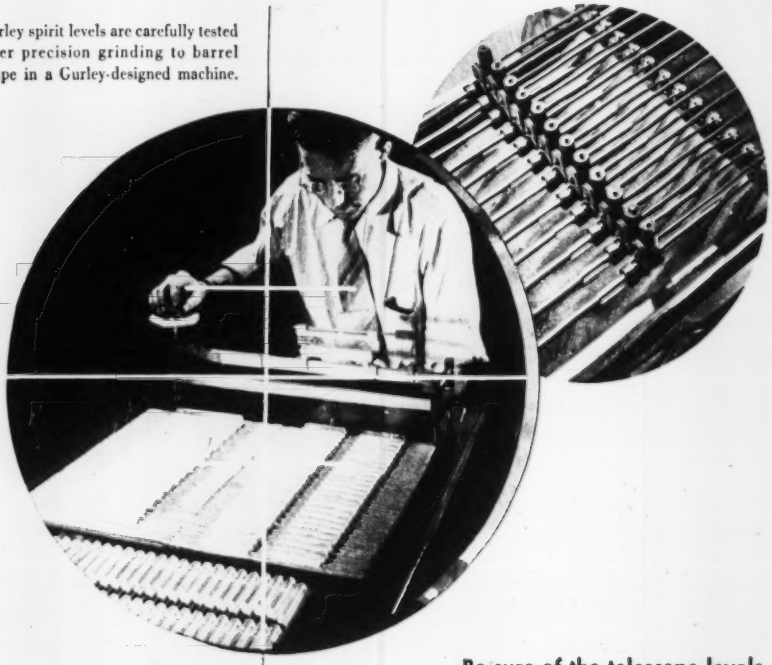
ENR INDEXES (1913 = 100)	Feb. '49	Jan. '49	% Change	Feb. '48	% Change
Construction Cost	475.37	477.41	−0.4	442.67	+7.4
Building Cost	352.87	354.91	−0.6	335.49	+5.2
MATERIALS PRICES (20-cities' average)					
Cement, bulk, per bbl	$2.970	$2.960	+0.3	$2.790	+6.5
Structural Steel, (3-mill aver.), per cwt	3.250	3.250	0.0	2.800	+16.1
Sand, per ton	2.010	2.002	+0.4	1.853	+8.5
Lumber, 2x4 Fir, per M ft. bm	92.160	94.630	−2.6	97.960	−5.9
Lumber 2x4 Pine, per M ft. bm	80.930	83.080	−2.6	91.240	−11.3
Common brick, per M	27.438	27.438	0.0	24.738	+10.9
Ready-mixed concrete, per c. y.	10.177	10.259	−0.8	9.872	+3.1
Structural Clay Tile, 3x12x12 per M	130.658	131.670	−0.8	121.500	+7.5
WAGE RATES (20-cities' average)					
Common	1.417	1.417	0.0	1.272	+11.4
Skilled (aver. 3 trades)	2.353	2.353	0.0	2.153	+9.3
Bricklayers	2.560	2.560	0.0	2.303	+11.2
Structural Ironworkers	2.339	2.339	0.0	2.172	+7.7
Carpenters	2.183	2.183	0.0	1.986	+10.0

CONTRACTS AWARDED (thous.)	January 1949	January 1948	% Change†	Twelve Months 1948	Twelve Months 1947	% Change†
Total U. S. (ENR reported)	$565,826	$441,955	+60.0	$7,219,387	$5,659,232	+25.2
Private	229,814	207,529	+38.4	3,581,444	3,581,444	+10.9
Public	336,012	234,426	+79.2	3,637,943	3,637,943	+43.3
Federal	129,897	56,167	+189.1	951,229	951,229	+42.2
ENR Const. Volume Index, '13 = 100	255	173	+47.4	254	228	+11.4
NEW CONSTRUCTION CAPITAL						
Total	477,261	225,850	+164.1	6,786,211	3,885,786	+71.3
State & Mun. Bond Sales	199,905	110,040	+127.1	2,033,502	1,177,918	+69.4
Corporate Security Sales	277,356	115,810	+199.4	2,701,488	1,641,428	+61.5
Federal (non-federal work)				492,289	247,711	+98.7
Federal (federal work)				1,558,932	818,727	+90.4

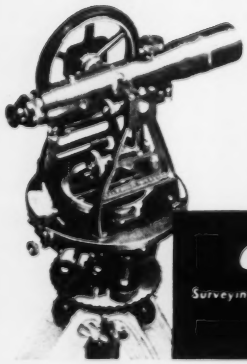
MATERIAL SHIPMENTS & LABOR SUPPLY	December(D) November(N) 1948	1947	% Change	Twelve Months(12) Eleven Months(11) 1948	1947	% Change
Cement, thous. bbls., Bu. of Mines	18,110(N)	16,267(N)	+11.3	191,587(11)	175,016(11)	+9.5
Fabr. Struct. Steel, thous. tons, AISC	182(D)	173(D)	+5.2	1,994(12)	1,915(12)	+4.1
Lumber, mil. ft. bm., NLMA	2,383(D)	2,844(D)	−16.2	35,334(12)	36,016(12)	−1.9
Lumber Prod., mil. ft. bm., NLMA	2,620(D)	2,763(D)	−5.2	36,916(12)	36,635(12)	+0.8
Contract Const. Employ., thous., BLS	2,109(D)	1,978(D)	+6.6	2,032(12)	1,921(12)	+5.8

† Computed on weekly average basis.

Gurley spirit levels are carefully tested after precision grinding to barrel shape in a Gurley-designed machine.



While you're looking through a transit, take a look at what's behind it



GURLEY

Surveying and Scientific Instrument Makers
Since 1845

Be sure of the telescope levels.

You'll want them sensitive and accurate, with undistorted curvature and uniformly spaced graduations. They should be reversion-type, too, to permit using the transit as a level for construction work. You can count on all these in a Gurley transit.

Level vials are precision ground to barrel shape in Gurley designed machines. Grinding rods conform to master templates representing arcs of circles 15 to 750 feet in diameter—sensitivity of 3 to 90 seconds per 2 mm. bubble run. Precisely matched graduations on the vials are permanently etched 2 mm. apart on opposite sides. Vials are truly circular at any cross-section—sure to give identical reverse readings.

Yes, take a good look at what's behind the transit you buy. In a Gurley you get the product of over 100 years' concentration on instrument manufacture. Every part is made in the Gurley plant—where expert craftsmen combine modern precision equipment and methods under supervision of field-experienced engineers.

The Gurley is the lightest, "ruggedest" transit available, with all these field-tested advantages: Large objective lenses reaching the theoretical limit of optical power; forged, heat-treated limbs with accurate graduations on non-tarnishing surfaces; integral axles and telescopes mounted in multi-groove axis bearings. And it's backed by an unqualified guarantee.

No wonder so many engineers say, "Give me a Gurley every time." Write for Bulletin 50.

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Surveying and Engineering Instruments, Hydraulic Engineering Instruments, Standard Precision Weights and Measures, Paper and Textile Testing Instruments, Aeronautical Navigating Instruments, Meteorological Instruments.

Backward Area Development

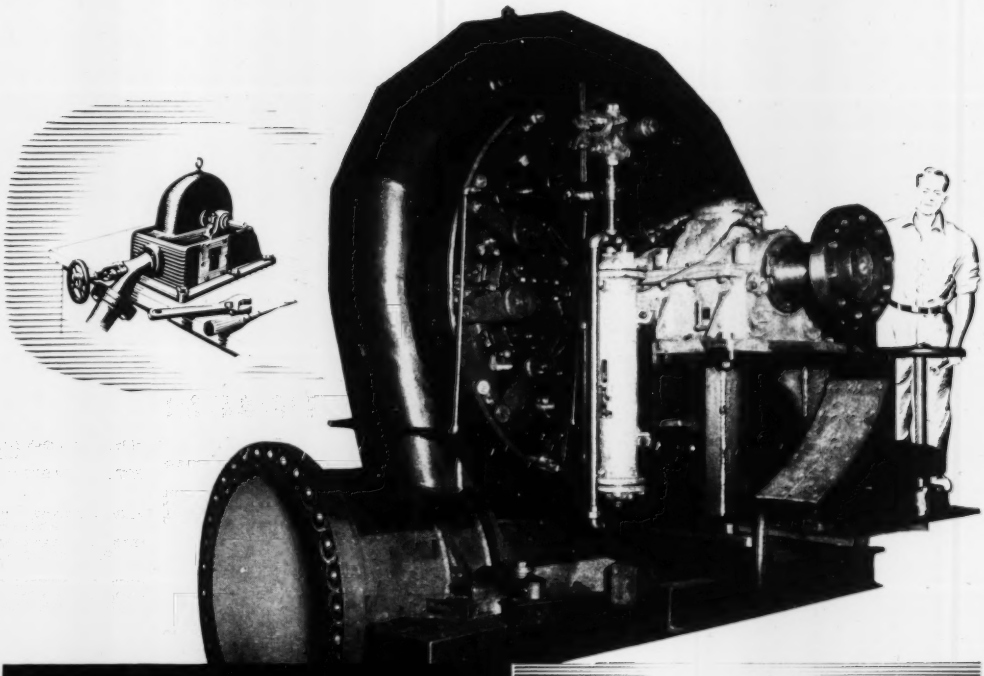
IT IS NOT A NEW IDEA, this one the President expounded in his inaugural address to apply our technical brains and industrial skills to the development of the economically backward areas of the world. Rather it is a very good old idea that has never been fully implemented. Its age, in fact, corresponds to the length of time that European countries have been in the colonial business. But while these colonies are far less undeveloped and much better off than before, they lack the permanence in well-being that they think they deserve. Presumably, it is the President's theory that this situation can be changed if the natives are regarded as partners, instead of wards, trained to manage their own modernized industry and agriculture and left with an economically-developed country that can support itself and sell abroad. In this the President merely adopts the belief long held by enlightened world traders that the way to make small customers big customers is to raise their standard of living. Insofar as exporting technical brains is concerned, that, too, has been done before, is being done now, with American engineers in Afghanistan, India, China, Iran, Liberia and Saudi Arabia. The interest lies not so much in the President's idea, but in how he plans to put it to work on a grand scale. Engineers and construction men will be found eager to go, private investment capital will not be lacking, but only if something akin to the zeal with which the British government backed up its colonial commitments is forthcoming from Washington. There is a great opportunity here for America, her technical brains and her industrial know-how, to promote peace and plenty in the world. We hope the President's planners plan well.

Keep Public Housing Within Bounds

THERE IS A DANGER that the administration in its exuberance over its "fair deal" program will attempt to push public housing outside its accepted orbit in a private enterprise economy. This would be a mistake of major proportions, if for no other reason than that it would obstruct, compete with and discourage private investment upon which the great bulk of our needed housing depends. But a more basic danger exists in pulling into the public housing fold a class of people who have no place on the charity lists. These are the people who under today's conditions have a hard time covering their housing costs, but who are not completely unable to pay an economic rent. Many of them may claim to be eligible if $12,500 is spent per housing unit as the new Ellender bill proposes. This new bill would also generate as many as 200,000 public housing units annually, nearly a fourth of all units that are likely to be built in any one year. Such a figure is out of all proportion to the real social need for public housing. It is also large enough to siphon off such amounts of materials and labor that private housing would suffer seriously. Public housing was originally justified to the American people as a necessary humanitarian endeavor to get the lowest income groups out of disease-and-crime-breeding hovels. It was also envisioned as a slum clearing device, with tangible economic benefits to the public at large. These objectives should be reaffirmed, and efforts carefully focused on them. It would also be well if private enterprise were given maximum encouragement to take part in slum clearance rebuilding as last year's Taft-Ellender-Wagner bill provided. Public housing, as a policy of government, should adhere to a carefully circumscribed area. And the area should be reduced wherever private investment can be enlisted to take over. To think of expanding public housing to a fourth of all housing and to make it available to any but those of lowest income is much too close to socialization. Congress should take a careful look before it turns housing in that direction.

Embankment Consolidation

A NOTE of caution against putting too much faith in laboratory tests of soils, sounded at the Highway Research Board meeting (ENR, Dec. 30, p. 5), was repeated from another source at the annual meeting of the American Society of Civil Engineers in New York. Robert R. Philippe of the Mississippi River Division staff at Mariemont, Ohio, said that after 15 years of soil compaction studies there still is only a chance relationship between laboratory test results and actual performance in an embankment. Because this condition exists, the committee of which he is chairman recommends that more study be directed toward determining what densities can be obtained with different types of soil and various kinds of equipment. Such study will pay large dividends. Presumably it will widen the range of soils that can be used safely in certain types of embankment as for example, those on a poor foundation, which must have a section greater than would be required simply on the basis of impermeability. And, conceivably there will be times when economies can be made through adoption of a large section of local materials rather than to import materials for a smaller one. Such possibilities point to the importance of concentrating on determining in the field what can be done with the principal types of compaction equipment and a variety of soils, which can be classified by available laboratory tests.



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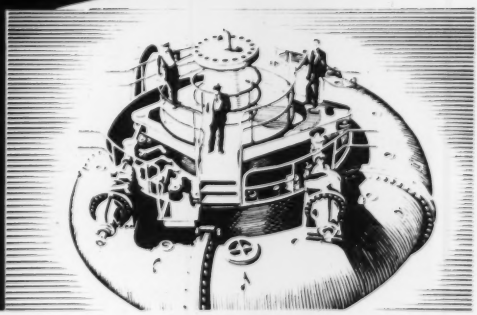

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FEBRUARY 10, 1949 VOL. 142 NO. 6

States to spend $4 billion for construction purposes

Survey of budget messages shows bulk of money to go for highway work, educational buildings and housing — Pennsylvania highway spending to be largest

The 48 states of the United States will spend more than $4 billion for construction during the next two years, a survey indicated last week.

The bulk of the money will go into two construction categories—highways and public buildings.

Together with the announced plans for federal construction expenditure, this would indicate a total governmental construction program (exclusive of the cities) of more than $4 billion during the one fiscal year, 1949-50.

Further funds may be added to this total by several huge bond issue proposals—mostly for housing work—planned for submission to voters of the several states shortly.

With 44 state legislatures in session this month—36 of them starting new terms—ENGINEERING NEWS-RECORD utilized its nation-wide correspondent network to gather figures on construction expenditures, to provide a base for an estimate of state spending.

Since many state legislatures meet only once in two years, and thus provide funds for a biennium, it was impossible to make an accurate year-by-year breakdown of the figures.

Cautious attitude seen

Beset by the same problem—increasing demands for social service and actual need of construction and reconstruction of roads and buildings—most of the states showed a cautious attitude toward any large increases in construction spending. Some, like Nebraska, Utah and Nevada, actually pared their estimates under those of the previous period, and almost all of the governors who asked more funds were careful to explain to legislators the pressing nature of the work.

The biggest overall state budget reported was New York's whopping $936 million, the smallest Vermont's $41.7 million. In both these and in most others, social services—state aid to schools, pensions, welfare—took the greater share of money requested.

For general highway purposes, the state that will spend the most for this purpose is Pennsylvania, which planned to spend $230 million out of a total $315 million budget. New York estimated it would spend nearly $200 million for highway work; Oklahoma, $78,000,000; Iowa, $88,000,000; Washington, $76,000,000 and West Virginia, $58,000,000. Several states are planning bond issues to finance highway work, but those totals are not included in the budgeted amounts.

In the field of public buildings, by far the greatest amount of state money will be spent for schools of all types from colleges and universities to kindergarten and grade schools. New York will spend a large share of $89,000,000 public building money on schools; Massachusetts plans to spend about $35,000,000 for this purpose; Connecticut will spend about $30,000,000. South Carolina, with an $85,000,000 public building budget, will spend nearly half of it for school structures.

Other public buildings on the list include various state office structures, armories, and even—in the case of Pennsylvania—sewage disposal works.

Hearings offer no private housing aid

Start of Senate hearings on new housing legislation last week caught the Administration part way off base. Congress knew exactly where the President and his advisers stood on revived TEW provisions, but it had no equally explicit information as to how far the Administration would be willing to go to stimulate private construction of so-called economy housing.

On the TEW long-range program—revised and amplified with respect to public housing—the Administration had spelled out its position in identical bills introduced by Senator Ellender and Representative Spence on Jan. 5. That was the first step in a planned two-part legislative program (ENR Dec. 9, p. 71). As for part two, the Administration has not yet completed the drafting of a bill that would define its recommendations for assisting privately financed housing—by mortgage insurance or by direct lending.

A partial answer to what the Administration wants was contained in a bill put forward in both houses on Jan. 27 by the chairmen of their respective banking committees. The bill had Administration approval. It would authorize direct government loans to housing cooperatives, more liberal FHA insurance for lower-cost houses (including three- and four-bedroom homes), and a liberalized secondary market—in the Federal National Mortgage Association—for mortgages on (1) cooperative projects, (2) rental housing and (3) lower-cost dwellings built for sale.

Further evidence of official thinking was given by Administrator Raymond M. Foley of the Housing and Home Finance Agency in his testimony before the Senate committee. He asked for additions to the bill authorizing direct government loans by FNMA, including construction loans to builders, on rental projects. In answer to a question, he declared that the bill—in itself—definitely does not take care of the needs of the middle income groups.

The first days of the hearings offered ample indication that the problem of producing lower-cost housing—for sale and for rent to middle-income families—has taken equal rank with the long-debated questions of slum clearance and public housing. Mr. Foley told the committee that declining trend in home production during latter part of 1948 emphasized the effect of high costs.

Any financing aids that may be enacted by Congress to encourage construction of lower-cost housing would add stimulus to joint business-government-finance-labor drive already under way. Meetings sponsored by local business-labor interests are being held this week in 65 cities where FHA has offices. Similar meetings are planned for February and March.

NEWS BRIEFS

Bridges—Erection has begun on the lower portion of one of the towers of the $14,000,000 Tacoma Narrows suspension bridge near TACOMA, WASH. Piers of the original bridge have been recapped for the new towers, which will be 58 ft. higher than the original ones; completion of the bridge is scheduled for July, 1950. . . . A bill will go before the CALIFORNIA state legislature for construction of a new north approach to the Golden Gate Bridge. This would have a 3.2 grade instead of the 6 percent existing grade, and would cost $12,000,000.

Labor—SPRINGFIELD, MO., carpenters have voted to cut the union scale 20 percent on residential building because "high union wages are stifling the building of private homes." This action cuts carpenters' wages from $1.87½ to $1.50 hourly. . . . AFL bricklayers of DAYTON, OHIO, who went out on a 10-week strike last summer, will ask no increase in their $2.62½ hourly wage this year, according to an agreement recently reached. . . . Plumbers in the BINGHAMTON, N. Y., area have been awarded a 20-cent hourly increase, bringing their wage to $2.35. . . . Nearly 2,500 ironworkers have signed a contract at CINCINNATI, OHIO, boosting wages five cents an hour. In the YOUNGSTOWN area structural ironworkers have been less successful in obtaining a demanded $2.50 an hour, although the union claims 20 contractors have signed for this higher wage. . . . In an effort to stamp out pirating by contractors for the 1,300 journeymen bricklayers in the CLEVELAND area, the Mason Contractors Association has notified unions that all bonus and premium payments have been eliminated; the straight hourly contract wage of $2.37½ per hour will be paid.

Hospitals—Bids on the first 400-bed section of the SOUTHEAST LOUISIANA hospital for mental patients will be advertised for July 1. The first unit of the proposed $20,000,000 project will cost about $3,000,000. . . . Federal approval has been received for a $2,794,000 hospital at TUSCALOOSA, ALA., and the project is scheduled to be released for bids about June 1. . . .

Airports—Municipal airport at TOLEDO, OHIO, will be expanded at a cost of $2,664,000; relocation of over 4 miles of Pennsylvania Railroad track is involved. . . . CAA approval has been given a new 6,000-ft. runway at Sky Harbor Airport, PHOENIX, ARIZ. This $500,000 improvement is part of a $5,500,000 expansion planned by the city. . . . Improvements costing more than $1,300,000 will be added to the municipal airport at ATLANTA, GA., during 1949. Nearly the entire sum will go into a 7,800-ft. concrete runway now under construction.

Water and Sewers—A study to cost $30,000 has been recommended by a committee of the Northern Virginia Regional Planning Commission. The need for a NORTHERN VIRGINIA sewage disposal system has been pointed out with the serious pollution of the Potomac as an example; estimates have set $5,000,000 as the ultimate cost of necessary treatment works. . . . In OMAHA, NEB., a $2,074,000 contract has been awarded by the city to the Michigan Sewer Construction Co. of Detroit, Mich., low bidder on the South Omaha sewer. . . . AKRON, OHIO, has granted city council approval for the sale of $3,375,000 worth of 20-year mortgage revenue bonds to finance start of work at the Botzum sewage disposal plant. First units will be under construction by 1951, and completion is scheduled for 1962. . . . Bids will be opened Feb. 10 on another half million dollar portion of the HONOLULU, T. H., $20,000,000 sewer construction program. . . . A $1,435,000 contract for installation of one section of the north interceptor of the East Bay Municipal Utility District's $23,000,000 project in the SAN FRANCISCO area, has been awarded to Stolte, Inc., and United Concrete Pipe Corp., a joint venture. The water department plans to call for bids in March on a third pipeline 35 mi. long from Hetch Hetchy aqueduct to Crystal Springs reservoir. Construction of the $12,000,000 line is expected to start late this year and be completed by January, 1951. . . . WATERBURY, CONN., now discharging 12 mgd. of raw sewage into the Naugatuck River, is considering sewage treatment works estimated to cost $1,500,000 to be completed by October, 1950. . . . Henry Souther Engineering Co., Hartford, has submitted a preliminary report to the MIDDLETOWN, CONN., Water Study Committee for improvements to the city water supply system that would cost $1,500,000.

MAJOR MEETINGS

National Ready Mixed Concrete Association, 19th annual convention, Hotel New Yorker, New York, N. Y., week of Feb. 14.

National Sand and Gravel Association, 33d annual convention, Hotel New Yorker, New York, N. Y., week of Feb. 14.

National Association of Home Builders, annual convention and exposition, Stevens Hotel, Chicago, Ill., Feb. 20-24.

National Council for Stream Improvement, Waldorf-Astoria, New York, N. Y., Feb. 21-23.

American Concrete Institute, 45th annual convention, Hotel Pennsylvania, New York, N. Y., Feb. 22-23.

Associated General Contractors of America, 30th annual national convention, Waldorf-Astoria Hotel, New York, N. Y., Feb. 27-March 3.

Association of Highway Officials of the North Atlantic States, 25th annual convention, Hotel Statler, Boston, Mass., March 1-3.

American Concrete Pipe Association, 41st annual convention, Richmond, Va., March 3-6.

Construction Industries Association, Hotel Statler, Washington, D. C., March 8.

American Institute of Architects, annual meeting, Rice Hotel, Houston, Tex., March 15-18.

American Railway Engineering Assn., Palmer House, Chicago, Ill., March 15-17.

THEY'RE TO BE STEEL—Stock Construction Co., announced low bidder (ENR Jan. 13, p. 20), has received the $4,212,865 contract for these twin steel-arch hangars at New York International Airport. Construction already has begun with a May, 1950, date set for completion of the project.

Committee considers bill to change minimum pay in Wage-Hour Law

Many other major changes in law suggested in bill written by Labor Department—Overtime-on-overtime would be affected

Unlike other recent years when Congress considered changes in the 1938 Wage-Hour Law, it is generally accepted that Congress this year will raise the statutory minimum wage above the present 40-cent figure. None of the 25 members of the House Labor Committee seriously questioned this step at recent hearings.

Previous efforts to up the 40-cent minimum wage, which started going into effect in 1939 and became general in 1944, usually bogged down on the related issue of extending the law to millions of workers not covered.

To avoid a bitter fight on the same issue this year, Democratic leadership in the House indicated it would get quick action by pushing only an increase in the minimum to 75 cents—leaving general revision until later.

There was no sign of this single-shot strategy in the "committee print" of a wage-hour revision bill on which the house committee held hearings. Chairman John Lesinski, who unveiled it, said it was neither his bill nor the Administration's—just something thrown together to lay the basis for hearings. But Secretary of Labor Maurice J. Tobin admitted in his testimony that the bill was written by Labor Department attorneys.

Major changes suggested

There were enough major changes in the bill, besides raising the wage floor, to stir up opposition from Republicans and southern Democrats on the committee. This opposition is not of a nature to block any change in the law, but it can be effective in killing or amending some of the features of the proposed bill.

Major parts of the bill before the house committee would:

1. Raise the minimum wage to 75 cents an hour.

2. Work toward an eventual $1 minimum on recommendations by industry committees.

3. Transfer authority to the Secretary of Labor.

4. Permit the secretary to make binding rulings and to file court suits for back wages due employees.

5. Increase the statute of limitations to four years. It is now two years under the Portal-to-Portal Act of 1947.

6. Meet the "overtime on overtime" problem by excluding most premium payments from the "regular rate" on which time and a half overtime must be paid. The "regular rate" is not defined, however.

7. Extend the law to most business by making it applicable to all "activities affecting commerce," as well as to industries engaged in commerce or producing goods for commerce, which is the present test of who is covered.

8. Tighten the child labor protections by directly prohibiting the use of child labor in connection with any activity affecting commerce.

About 1,500,000 workers now covered by the law would get raises, and most of them are earning more than 60 cents. The wage bill for the country would rise less than one percent. Not considered are increases which might be necessary for persons earning 75 cents or more in order to maintain wage differentials or the increases which would be required if the law is extended, as proposed, to cover up to five million more workers.

Not only "overtime on overtime," but also the status of welfare benefits and other "fringe" payments would be clarified by the exclusion of certain items from the "regular rate" of pay on which time and a half must be figured.

Senate weighs Taft-Hartley substitute

The new labor law President Truman wants as a substitute for the Taft-Hartley Law was unveiled in Washington last week in the Thomas Bill—S. 249. Three major provisions affect construction.

1. The closed shop would be restored, and the anti-closed shop bans in 12 states would not apply to labor disputes affecting interstate commerce.

2. Jurisdictional disputes, and secondary boycotts to further them, would be unfair labor practices. The government's right to prohibit jurisdictional strikes and boycotts by injunction would be wiped out.

3. An employer would be guilty of an unfair labor practice if he refused to assign work in accordance with a jurisdictional decision of the National Labor Relations Board or an arbitrator appointed by the board.

Hearings began by the Senate Labor Committee last week. A bill may reach Truman's desk by the end of April, but it's likely to contain more than what's in the Thomas Bill.

Senator Taft and other Republicans plan to offer many features of the Taft-Hartley Law as amendments, and some will get through. Best chance is given to injunctions in national emergency disputes and retention of the non-Communist affidavit while extending the requirement to employers as well as union leaders.

Of special concern to the industry is what happens to the national joint board for settling jurisdictional disputes established last May by contractor associations and the A.F.L.

It was agreed to continue the joint board and to consider some procedural changes suggested by the unions a few months ago. But it was believed that the machinery would be less effective with the injunction threat no longer in existence.

The only force left in the Thomas Bill is the old Wagner Act procedure which permits NLRB to get a court order to enforce its decisions. In the case of a jurisdictional dispute, or a secondary boycott in connection with it, NLRB would hear the dispute itself or appoint an arbitrator. The contractor affected would get a chance to be heard. The decision could be enforced in the courts, but in the meantime strikes or boycotts could continue.

The type of secondary boycott which the bill would curb is very limited. It does not aim, for instance, at a boycott of non-union work. The bill states that it is an unfair labor practice for a union:

1. To cause a secondary boycott to compel an employer to bargain with a particular union if (a) another union has been certified; (b) the employer is under NLRB order to bargain with another union, or (c) the employer has a contract with another union.

2. To cause a secondary boycott in furtherance of a jurisdictional dispute if the union is trying to force the employer to assign work contrary to an award of NLRB or its arbitrator.

The bill also would make it an unfair labor practice for an employer or a union to terminate or modify a contract without a 30-day notice to the U. S. Conciliation Service.

The bill does not change the scope of jurisdiction of the Taft-Hartley Law; NLRB would be expected to continue handling construction industry disputes as it has under Taft-Hartley.

Army study of construction machines forecasts strong, simple, light types

Corps of Engineers reveals aim of research program in talks at Ohio highway session—Group hears progress of road research

Construction equipment that will be dependable under extremes of weather, stronger, simpler to operate and maintain, and easy to transport by air is the object of Army engineer research today, speakers said at Columbus, Ohio, last week.

Addressing a three-day annual highway conference, sponsored by Ohio State University and the Ohio highway department, Lt. Col. Daniel A. Richards of the Engineer Research Center at Fort Belvoir, Va., lifted the lid on seven improvements to construction machinery now under experimental development. They are:

1. A 100-hp. track-type tractor developing a ground pressure of 4.5 psi., self-starting at —40 deg. F., 48-hr. continuous operation with additional lubrication or routine maintenance, and with provisions for comfortable conditions for the operator;

2. Light-weight free-piston or rotary type air compressors. The first model free-piston compressor, now under test, weighs only 2,000 lb., complete with skids. It produces 210 cfm. at 100 psi., as compared with the 105 cfm. compressor weighing 6,000 lb. developed during the last war;

3. A diesel-powered pile-driving hammer, completely self-contained and requiring only the normal crane hoist and leads for its operation, to get away from the bulky steam-boiler or air-compressor needed for today's pile hammer;

4. Light-weight dump-truck bodies of either aluminum or magnesium, faced with a steel plate for abrasive-resistance in hauling quarry rock. Mounted on standard Ordnance chassis, the truck bodies will be 2½, 5, and 10-cu. yd. (struck capacity). They also are being developed to serve as personnel and cargo carriers;

5. A rugged 20-ton front-loading machinery trailer in which the front gooseneck forms the ramp. It will be equipped with a rear-power unit to give great mobility both on and off the road;

6. A medium sized crane utilizing the ball-bearing roller path principle, which will permit lowering the height of the unit several inches, less vulnerable to damage and require less maintenance;

7. Although of little potential value in civilian construction, a new machine or some method of compacting snow to a firm bearing is greatly needed by the Corps of Engineers for rapid construction of roads and airstrips in the Arctic.

Other tests

Tests also are being conducted on modifications of existing commercial equipment for military usage. One example is an experimental tractor built by the Caterpillar Tractor Co., for air-borne operations. Although it weighs several thousand pounds less than the D6, it approaches the work capacity of a D7 tractor through increased speed of operation and a more powerful engine.

Developments in the torque-convertor principle as embodied in the Allis-Chalmers HD-19 tractor are being watched, from the standpoint of a shorter training period required for the operator. This torque-converter principle also is considered advantageous where two or more machines are synchronized for towing or pushing, and in starting and pulling sled trains in the Arctic.

Studies also are underway, according to Col. Richards, on the Thew-Lorain motorized cranes, models TL-20 and MIC-S20, to develop a technique for utilizing the power in each crane to transfer itself from the truck to the crawler mount, and vice versa, without the aid of another crane.

Highways of the future

Allied with the report on futuristic highway equipment was a paper delivered by Fred Burggraf, associate director, Highway Research Board, on the part being played by highway research in future road building.

"Future highway design and construction depends a great deal on the application and trends of today's research activities," declared Mr. Burggraf. "These apply to all branches of highway engineering, from soils investigations to finance and administration.

"One of the most pressing problems today, for example, is that relating to the economics of motor vehicle size and weight. More long-range, statewide highway planning studies also are needed, both engineeringwise and for determining sound means of financing our expanding roadbuilding programs."

More research needed

Among the data to be secured by greater research, according to Mr. Burggraf, are more exact knowledge on anti-skid properties of different surface textures, to lessen the great number of needless skidding accidents.

Air-entraining cements are being used more generally in highway pavements and structures. But current research in this field, particularly as to the strength of air-entrained concrete, its durability, bond, permeability and shrinkage characteristics, will produce new knowledge which will be incorporated in tomorrow's road building practices.

Full-scale field bearing tests are being carried on in four states to determine the load-bearing capacity of roads subject to frost action. Preliminary results disclose a definite pattern of accelerated road weakening—up to 60 percent loss in strength, while the frost is leaving the ground. Results of these tests, asserted Mr. Burggraf, should make it possible for states in the frost zone to adequately impose load limitations on their roads during the critical periods to avoid complete failures.

In the field of soils investigations, Mr. Burggraf pointed out that a more realistic approach to the use of compaction and moisture control is developing. Several states have recently revised construction specifications to secure compaction according to the needs for the particular part of the road involved.

Bridges of the future

Steady progress in bridge design, from the standpoints of functional design, aesthetics and economy, is evidenced by current trends in this field, declared R. M. Bergendoff, of Howard, Needles, Tammen and Bergendoff, Kansas City, Mo., who headed a group discussion on bridge design

DALE-NEELY BRIDGE across the Watauga River about eight miles above Watauga Dam, Tenn., is being built by TVA as part of the highway relocation plan required by flooding at Watauga reservoir. When the dam is closed next fall, water will rise to the clearing line shown just above the bridge. Nashville Bridge Co. is doing the erection. The roadway will be 270 ft. above the river bed.

and construction in one of the technical sessions.

Economy of construction dictates a definite trend away from through girders in favor of deck construction. For the same reason, said Mr. Bergendoff, greater continuity is being incorporated in the design of superstructures, while functional simplicity is creeping more and more into both the superstructure and substructure.

More grating used

Other significant trends include open curbs which permit ready discharge of rain, snow and dirt from the roadway surface of bridges. More open-grating flooring is being used as a weight saving measure.

Concrete beam bridges have nearly been priced out of the market, declared J. C. Merrill, design engineer, Ohio Department of Highways.

Greater use of welding in bridges, both in the fabricating shop and in field erection, will be adopted in the future, contended LaMott Grover, welding engineer, Air Reduction Co., for greater saving in weight, simplicity of erection, as well as beautification of the bridges.

No equipment display was held in conjunction with this year's conference as was done last year (ENR Apr. 1, 1948, vol.p. 475). Plans for next year's conference, however, include an equipment show, said Emmett H. Karrer, professor of highway engineering, Ohio State University, and chairman of the highway conference.

Army, private contractors team up to fight snows

Military and civilian forces have worked together as an effective team in the effort to open up access to human beings and animals in the midwestern blizzard belt, Acting Secretary of the Army Gordon Gray said last week.

His statement was made just after he and Lieut. Gen. R. A. Wheeler, chief of engineers, returned to Washington from the stricken area. General Wheeler later told ENGINEERING NEWS-RECORD that in addition to military engineer equipment brought into "Operation Snowbound," the construction industry has thrown its every effort into the tremendous struggle to open up ice-blocked roads and re-establish contact with numerous isolated ranches and rural dwellings.

Maj. Gen. Lewis A. Pick, division engineer for the Missouri River Division, is acting as deputy commander, 5th Army, for the snow relief effort. Private contractors from California to Michigan placed a tremendous fleet of equipment in the pool of snow-moving machines on which he is drawing in his fight to break the snow blockage in the Missouri River Basin.

Offers of heavy-type civilian-owned equipment needed in the fight poured into the operations headquarters of the Corps of Engineers in Omaha at the rate of more than 100 daily. Estimates in the office, Chief of Engineers, Washington, give the total of heavy machines placed at the disposal of General Pick by private contractors at approximately 675 bulldozers and 125 motor patrols and snowplows.

The contractors are also furnishing the necessary supervisory and operator personnel. Labor unions in the area are cooperating by supplying the proper clothing for zero weather.

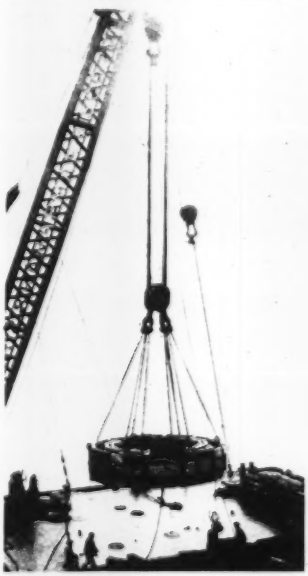
State building code asked for New York by Dewey

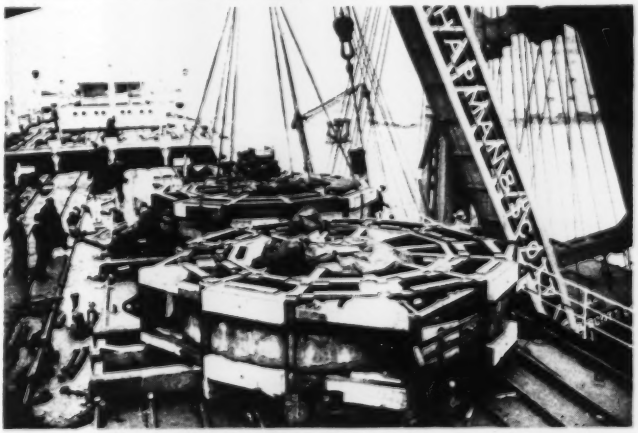
Gov. Thomas E. Dewey of New York last week proposed imposition of a state-wide building code by this summer to cut home-building costs.

Placed before mayors and building officials from many of the state's communities at a meeting in Albany, the plan calls for a measure to be introduced in the state legislature. Under this measure a commissioner would be empowered to draft a state-wide code, which would be of the performance-standards type. Existing municipal codes and enforcement methods would not be superseded, according to this plan, but communities would have to approve structures complying with either the local code or state code.

Since the performance-standards code would be more flexible than existing rigid, specification codes, chances are the local codes would be junked, the governor believes.

Initially, code provisions would be applicable only to one- and two-family dwellings, the governor said, but eventually they would be extended to all types of construction.





CYCLOTRONS ARE MASSIVE and the parts thereof are no less impressive in size. With the giant steel cores delivered and installed (ENR Jan. 13, p. 18), Carnegie Institute of Technology must now bring these coils by water from Brooklyn Navy Yard to Pittsburgh. Hoisted from a barge at Edgewater, N. J., at left, the 92 and 97-ton magnet coils are loaded and secured, above, on the Seatrain New Jersey. Although Pittsburgh is only 375 miles from New York, the parts must go 3,000 miles down the east coast and back up the Mississippi River.

ENGINEERING SCHOOLS

Tuition Increases

A 15-percent increase in tuition at the Massachusetts Institute of Technology, or $100 more per academic year, was recently announced by President James R. Killian, Jr. The increase, effective with the opening of the 1949 fall term, will bring the annual tuition to $800. To offset any hardship, the rise will be accompanied by a 50 per cent increase in scholarship aid, and by the liberalization of student loans.

Skyrocketing educational costs have forced California Institute of Technology also to raise its tuition from $500 to $600 a year, while facing an operating deficit of $300,000 in 1949 unless an additional endowment is obtained to augment regular income.

The type of education in the various fields of science and engineering at Cal Tech," asserted President L. A. DuBridge, "is unusually costly." Present costs of operating the institute are almost three times as great as before the war while tuition fees has not gone up in proportion."

Scale Model Harbors

Projected Great Lakes refuge harbors for small boats will be tested and studied with scale model harbors and boats by University of Michigan faculty members. Tests will be conducted by C. O. Wisler and E. F. Brayter at the school's Willow Run laboratory wave tank. Models of the Port Austin and Port Sanilac harbors will be the subjects of preliminary tests. Purposes of the study include determination of types of concrete breakwaters needed to shelter small craft from Lake Huron storm waves and checking of currents at the mouth of the harbors which cause erosion and sedimentation. Funds and supervision for the project are being furnished jointly by the State of Michigan and the U. S. Corps of Engineers.

Soil Mechanics Lab

A soil mechanics laboratory course has been instituted at the University of Detroit to train civil and architectural engineering students in techniques of determining the physical properties of soils.

Assistant Professor Elihu Geer, directing the course, says:

"In the past, the determination of the carrying capacity of soils has been largely a matter of judgment and long experience. With recent developments in the science of soil mechanics, it is now possible to predict the carrying capacity with a fair degree of accuracy, based upon tests such as are taught in this course."

Educational Notes

More than 85 per cent of the 250 students who will be graduated from Georgia Tech at mid-term have been placed in jobs, with the remainder yet undecided on the position they will accept. The average monthly starting salary, for the industry and government jobs offered, is $250 for those with bachelor's degrees and $400 for students who are holders of master's degrees.

Boston, Mass., College has leased the 38-acre Lawrence basin of the Chestnut Hill Reservoir for 99 years, and plans to construct a science building there. The basin, unused as a part of Boston's water supply for the last 25 years, is being drained as a part of the $10,000,000 water tunnel project now under construction.

Methods of construction other than conventional led the program for the Small Homes Council's fourth annual short course in residential construction for builders and contractors on the University of Illinois campus in Urbana, Feb. 3 and 4. Engineered construction, prefabrication, post-and-panel framing, and plank-type construction were discussed.

Endowment funds of $100,000 each are being established at eight colleges in Greater Boston and New York by the Charles Hayden Foundation. Institutions receiving this aid will be Massachusetts Institute of Technology, Boston University, Northeastern, Tufts, Stevens Institute of Technology, Columbia, Fordham and N. Y. U.

Rensselaer Polytechnic Institute, Troy, N.Y. has found that reports filed by 550 representative industrialists favor colleges increasing faculty salaries as a major step in supplying engineers of broader competence. Of these replies 65 per cent favored having industry help on increased costs.

Louisiana State University, Baton Rouge, is offering architectural engineering as a full course and also advanced highway planning, including training in the management of highway and public works departments. The new curriculum also includes a course in combating stream pollution.

About 80 foreign graduate students from Eastern hemisphere countries are to attend an all-expense paid 16-weeks summer school course at M.I.T. Graduate students and young instructors with specific research problems will be given priority.

Construction of a million-dollar engineering building has begun at Wayne University in Detroit, Mich., as the first step in the development of engineering facilities for its 1,382 students.

Approximately $109,000 has been added to the endowment of the college of engineering at Cornell University through a bequest from the estate of Joseph L. Stichter.

Students from 113 American colleges and five foreign institutions were enrolled in the graduate school of Stevens Institute of Technology last year.

About 80 University of Kentucky students spent their Christmas holidays preparing road plans. They were assigned to State Highway Department's zone location and district offices as junior engineering aides. Dwight H. Bray, chief highway engineer, says that a shortage of technical men and the big road program to be undertaken make advantageous the employment of engineering students.

Faculty Items

A. L. Alin, consulting engineer of Omaha, Neb., has been appointed part-time professor of hydraulic engineering at the State University of Iowa. He will give a graduate course at Iowa City in the design of dams while continuing consulting practice.

Clayton W. DeMent, former loss prevention engineer of the U. S. Gypsum Co., Chicago, has been named safety engineer at Purdue University to head the recently established department of safety and security in the physical plant department.

Charles L. Price, Jr., who obtained his civil engineering degree from North Carolina State College in 1941, has been appointed instructor in engineering drawing at the Morehead City Technical Institute, a branch of the college.

John W. Graham, Jr., assistant professor of civil engineering, has been appointed assistant to Webster N. Jones, director of the college of engineering and science, Carnegie Institute of Technology.

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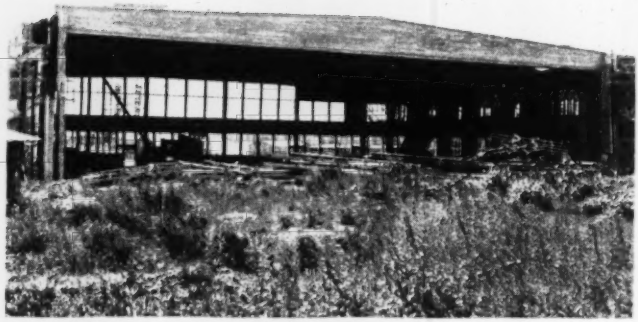

FIG. 1. HANGAR at Melsbroeck, airport of Brussels, has prestressed concrete framing permitting a 378 ft. x 130 ft. unobstructed floor area.

Prestressed concrete beams carry record loads in Belgian hangar

By Prof. Gustave Magnel
University of Ghent
Ghent, Belgium

Concrete airplane hangars, incorporating a prestressed beam carrying the heaviest load ever superimposed on such a structure, are now under construction at Melsbroeck the airport of Brussels, Belgium (ENR Nov. 4, p. 6).

As shown in Fig. 4, the building at Melsbroeck consists of two 130x168-ft. hangars, and one 130x378-ft. hangar. Around the perimeter of each hangar —excepting in the front—are shops. Entrance is obtained through four 168-ft. openings that can be closed by four sliding doors.

The 378-ft. hangar was initially planned as two areas of 168-ft. width each, separated by shops. However, during construction it was decided to omit these shops and provide a 378-ft. wide floor without obstructions. This was attained by inserting an overhead beam, C, 130 ft. long and 42 ft. wide.

Consequently, the general layout of the framing now consists of four 130x168-ft. rectangles in which four prestressed concrete beams are placed at 32-ft. 6-in. c. to c. Three interior beams are marked B and the one above the door is marked D in Fig. 4.

These beams generally rest on columns, excepting in the big hangar where they are supported at one end on beam C, which is also of prestressed concrete.

The four beams marked D and beam C were cast in place on timber formwork. On the other hand, the twelve beams marked B were cast on the ground in timber molds and lifted with four 75-ton jacks to provide a clear height between floor and beams of 32 ft.

Fig. 1 shows one of the beams, (D in Fig. 4), completed; Fig. 3, a beam, (B), just placed in its final position; and Fig. 2, one of the hangars with roof completed. It will be noted that the spaces between the beams marked D are bridged over by precast, hollow, reinforced concrete slabs giving an appropriate thermal insulation.

All of the prestressed beams are hollow. In particular, beam B is trapezoidal in section, 9 ft. 6 in. high, with walls 6 in. thick. It weighs 300 tons.

Each of these beams is prestressed by means of 420 wires of about ¼ in. dia. stressed to 128,000 psi. The total initial prestressing force was 1,460 tons per beam.

Divided into seven cables and fixed at the ends of each beam by patented sandwich plates, the wires were stretched in pairs, with a 10-ton jack, each wire being elongated about 10 in. before being anchored.

It was possible to lay the cables straight and still vary the eccentricity of the prestressing force to counteract dead load moment, because these beams are curved slightly upward (re-

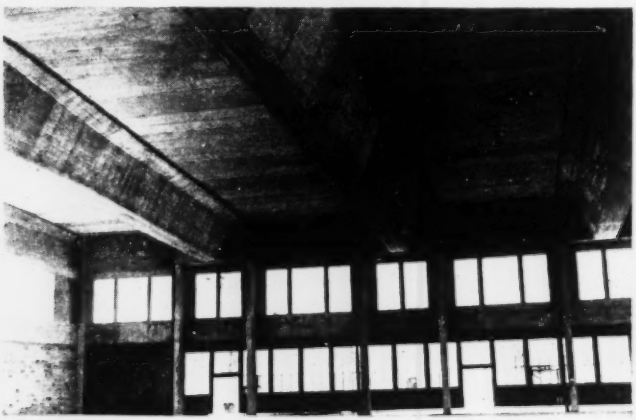

FIG. 2. HOLLOW BEAMS span 168 ft. and are spaced 32 ft. 6 in. on centers. A clear height of 32 ft. from floor to beams was provided, and overall height of the building was kept to about 42 ft. Each beam contains 420 ¼-in. wires.

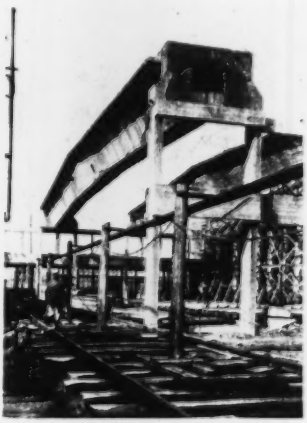

FIG. 3. PRECAST on the ground, the beams B (see Fig. 4) were lifted into place. Beams D and C were cast in place.

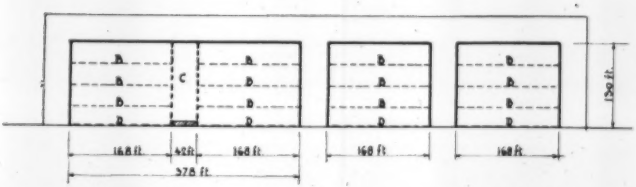

FIG. 4. FRAMING PLAN calls for carrying the load of all beams marked B on the shorter prestressed beam C. This is the greatest load ever imposed on such a structure.

versed V-shape). After prestressing, the cables were concreted in for protection against corrosion.

Beam C is actually a big bridge, since its total load is about 3,500 tons. It carries the heaviest load ever superimposed on a prestressed concrete beam.

The beam has the shape of a hollow rectangular caisson. The cables are inside it, but not concreted in.

A remarkable feature of this project is that the contractor got this job in competition against steel and ordinary reinforced concrete. Steel is considered a dangerous material for such hangars, since it collapses when a local gasoline fire occurs. Reinforced concrete, on the other hand, can solve the problem only by using arches having a rise of about 30 ft. Thus, with prestressed concrete beams, the construction has a far smaller overall height—a consideration of the utmost importance for an airfield.

Belgian contractors have announced they are prepared to make similar hangars with spans up to 300 ft. in length.

The hangars were designed and constructed by Strabed, contractors of Brussels. (Editor's Note—Prof. Magnel has general supervision of all prestressed concrete work done in Belgium and advises on the design and construction of all such jobs.)

Find tests justify cost of home radiant heating

The cost of insulating a residence having panel heating can be justified economically under certain conditions of power cost and climatic severity, it was declared at the 55th Annual Meeting of the American Society of Heating and Ventilating Engineers in Chicago, Jan. 24 to 27.

Tests were made on a four-room, one-floor, occupied residence, completely heated by panels of electrically conductive rubber, by R. J. Lorenzi, research engineer in the laboratory of hygiene, John B. Pierce Foundation, and J. F. Schreiber, development engineer in the mechanical goods division of United States Rubber Co., who found that heat loss was progressively reduced by double glazing of windows, adding 2 in. of mineral wool insulation to the ceiling, and finally, adding 2 in. of this insulation to the floor.

A report on a performance study of a one-pipe, forced circulation hot-water heating system with cast-iron, radiant baseboards in a basementless home, made at the University of Illinois, was given by Warren S. Harris, special research associate professor of mechanical engineering, and R. H. Weigel, special research assistant. Sudden changes in outside temperatures, the authors observed, present little difficulty in maintenance of even, almost unvarying temperatures in homes built with basements or on concrete slabs in direct contact with the ground, when they are equipped with a radiant baseboard system.

The system was designed to operate with a mean water temperature of 215 deg. F. at 80 deg. indoor-outdoor temperature difference, and a 20-deg. drop through each circuit. Temperature differences between the occupancy zones, as measured 3 in. and 30 in. above the floor, were 1½ to 2 deg.

Reporting on tests made on chimneys by the National Bureau of Standards, Paul R. Achenbach, assistant chief of the Heating and Air Conditioning Section, and Selden D. Cole, mechanical engineer, said that lined masonry chimneys built of shale-tile or cinder-concrete blocks are the equivalent of lined brick chimneys in draft-producing ability and effectiveness, and they are cheaper.

Keck named Kentucky highway commissioner

John A. Keck has succeeded Garrett L. Withers as state highway commissioner of Kentucky. Mr. Withers was appointed by Governor Earle Clements to fill the Senate post left vacant by Vice-president Alben W. Barkley.

Mr. Keck was sworn in as the new commisioner on Jan. 18.

Canada ponders giving highways federal aid

The possibility of the Canadian government participating in the cost of completing the Trans-Canada Highway was discussed at a meeting of representatives of the provincial highway department in Ottawa in December. Heretofore the Canadian government has not contributed to the highway work of the provinces except in the case of relief work during the depression.

Construction of the Trans-Canada Highway was undertaken before the war and at present some work has been done along the entire route from coast to coast, but much of it is not up to normal standard for such a highway.

At the Ottawa meeting, J. A. McKinnon, Minister of Mines and Resources, stated that the federal government would consider contributing to the cost of the proposed high-standard highway "if agreements can be reached on some equitable and satisfactory procedure."

The conditions for federal aid suggested by Mr. McKinnon were: (1) Provincial autonomy in respect to highways would be maintained; (2) any plan which is developed would take into account financial contributions already made to the existing highway by federal and provincial governments; (3) each province would select the most suitable route within its borders; (4) uniform standards of construction would be maintained; (5) the Canadian government would prefer that actual construction should be carried out by the provinces.

Delaware bridge low bid is by American Bridge Co.

The American Bridge Company, New York City, was low bidder at a total of $13,731,090 on all three contracts for providing structural steel and cable steel wire and erecting the material for the new $40,000,000 Delaware River Memorial Bridge near Wilmington, Del.

Bids of the American Bridge Company were $6,119,300 on Contract 4 for towers and suspended steel work, $2,311,985 on Contract No. 5 for cables and suspenders, and $5,299,805 on Contract No. 6 for approach superstructure steelwork.

The amount of these bids, together with the contracts awarded since the start of the bridge, will bring the total amount of work under contract to $29,722,000.

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Houston berths the Battleship Texas

By Cyril S. Adams
Consulting Engineer
Houston, Texas

The recently-completed permanent berthing of the former U. S. battleship "Texas" to serve as a memorial at Houston proved to be a major engineering feat, involving heavy, exact dredging work.

Texas state legislators in 1947 created a Battleship Texas Commission to take over the ship of that name from the United States Navy and berth it in the San Jacinto battleground—where Texas won her independence from Mexico—fronting on the Houston Ship Channel.

The basic layout of the berth involved the turning of the ship in the narrow Houston ship channel as well as placing the vessel well within the harbor line to prevent interference with navigation.

A site was selected where the dredging costs would be at a minimum, and at the same time only a portion of the park area would be utilized. These limitations led to the selection of a ship at right angles to the ship channel where about 150,000 cu. yd. of dredging was required.

Old bulkhead removed

Before the dredging could proceed, it was necessary to remove about 250 ft. of sheet steel pile bulkhead, composed of Z-sheets weighing 32 lb. to the square foot, 45 ft. long, driven into firm clay and covered with a heavy concrete cap.

The sheet piles were pulled with the aid of a heavy, wide flanged column resting on an adjacent pile and a many part block arrangement driven by a drum on a large dragline. Piles were pulled in a matter of ten days of continuous operation, even though it became necessary to jet two-thirds of the length of the wall before the sheets could be started.

As soon as the pile-removing operations were essentially complete, a 24-in. hydraulic dredge moved in and took out the necessary material in about 15 days. The dredge completed its work on April 18, 1948.

Extreme care had been exercised to provide a bottom that was as close to uniform level condition as could be produced by careful dredging and continuous sounding. Soundings reflected 6 inches of difference in the elevation of the material over the bottom area. The ship was lightened to a uniform draft of 24 ft. 11¼ in. and with a minimum tide of 2 ft. anticipated in April, it was planned to have 2 ft. of water available under the ship when she was towed in to her final resting place.

However, it was not possible to lighten the ship to the calculated draft because of leaks in the torpedo blisters, and as a consequence the ship drew 26.92 ft. aft and 26.5 ft. forward.

However, careful calculations of the tide were made and the ship was brought into the slip with a total depth of water of 27 ft. 6 in., a clearance of 7 in. under the after end of the vessel.

The ship was towed from the Norfolk Navy Yard to a wharf on the Houston ship channel in late March, to be cleaned up after its initial preparation for inactive service, and prepared for its final berthing. Floated into the slip, it was ballasted until it rested firmly on the bottom, and then the dredge moved out into the ship channel and pumped firm clay around the ship to an average elevation of —8, to completely land-lock the vessel under a submerged wall of earth 17 ft. above the dredge cut. This encasement provides protection to the ship channel by minimizing the pos-

sibility of the vessel ever floating out into the channel and blocking navigation during periods of extremely high tide. At the same time, to all appearances the ship is afloat when in reality a moat with a 10 ft. depth of water surrounds the vessel and extends back to the ship channel.

The berthing operation was performed under direction of Lloyd Gregory, chairman of the Battleship "Texas" Commission, and the engineering and supervision of contracts was performed by the author. The Gulf, Atlantic & Pacific Dredging Company performed the dredging and Ole Peterson & Son removed the sheet pile bulkhead.

Also Recorded . . .

Boar-Dozer—The Bronx Zoo, New York City, is the owner of a 250-lb. wild boar imported from Europe several years ago. Since then the animal has turned up with his snout about a quarter-acre of pavement topping and all the stone under it to a depth of almost a foot. No, contractors can't hire him.

Just in Time—The Stoudt's Ferry Bridge over the Schuylkill River near Reading, Pa.—a 100-year-old single-span, wood-covered structure 283 ft. long—was closed to traffic as unsafe on a Saturday. On the following Monday the bridge collapsed.

Bachelors' Road Tax—Some time ago the city fathers of Dunnellon, Fla., dug up an old law requiring single men between 18 and 45 to work on the streets or pay a $3 tax. At last accounts only 80 eligibles had been located and they all chose to pay rather than work. The road fund was $240 to the good.

Flying Saucers—Manhole covers in the streets of Boston, Mass., have been continuing their "flying saucer" roles. A recent blast launched a cover which set off a burglar alarm and caused a short circuit that darkened 250 homes.

Force of Gravity—Workers blasting in a quarry near Warm Springs, Va., sent a "rather large boulder" hurtling skyward. When it came down it struck a nearby highway bridge and dropped a 113-ft. span into the creek.

Clockwork—What it takes to fix a town clock was revealed recently when the city council of Boston, Mass., received bids of $4,500 and $12,719 for repair of the clock in the Custom House tower. Workmen required include carpenters, electricians, painters, riggers and sheet-metal workers.

HONORED BY MOLES—Winners of the 1949 Moles Award for outstanding construction achievement were honored at a dinner meeting Feb. 9 in New York City. Luther S. Oakes, left, has headed Winston Bros. Company, of Minneapolis, for 27 years; a Vermonter and a Dartmouth man, he has led the firm in railroad, dam and drainage work throughout North and South America. Capt. Thomas A. Scott has covered the waterfront—and more—since 1902 when he formed the beginnings of what is now Merritt-Chapman & Scott Corp., heavy construction specialists of New York City.

Whitman new president of Consulting Engineers

Following the annual dinner meeting of the American Institute of Consulting Engineers held in New York recently, Ezra B. Whitman was elected president for the next year, succeeding W. W. Colpitts. Mr. Whitman is senior partner in the Baltimore consulting firm of Whitman, Requardt & Associates. E. R. Johnson of Gibbs & Hill, New York, was elected vice-president.

New members of the council are Scott Turner and Clinton Hanover of New York and L. E. Paterson of Milwaukee. R. E. Bakenhus and Leslie Holleran was re-elected secretary and treasurer respectively. An address by Walter Lippman on world affairs was the feature of the dinner meeting.

Hawaii gets $40 million public works jobs under way

Public works costs in Hawaii will approach $40,000,000 during the fiscal year ending June 30, 1949, says a survey made by the General Contractors Association of Hawaii.

U. S. projects include a $1,000,000 national memorial cemetery of the Pacific at Honolulu, $5,500,000 for additions to Navy communication facilities and $2,500,000 for housing at the new Tripler General Hospital of the Army (ENR Sept. 9, p. 4).

The territorial government is building emergency homes, new public buildings, and a $12,000,000 highway along 41 miles of the coastline.

Honolulu is spending more than $3,000,000 on sewer system construction, $600,000 on its water system, and $3,500,000 for new schools.

New pier planned

Hawaii plans to start by next July on construction of a new $2,900,000 territorial pier near the entrance of Honolulu harbor.

The pier will be financed from a bond issue approved by the 1947 legislature. It is the first major harbor improvement undertaken by the territory since 1927 when Pier 11, Honolulu, was completed.

The proposed new terminal, to handle freight, will have 1,400 ft. of dock frontage, a shed 770 ft. by 250 ft., and a lumber dock of 3.9 acres.

Calif. engineer shortage forces contract work

Failure of a recruiting campaign in eastern and midwestern states to induce architects and engineers to work on California's building program has forced the state's Personnel Board to permit Public Works Director C. H. Purcell to offer contracts to private firms.

The more than 300 men needed by State Architect Anson Boyd to keep the program on schedule were not to be found. Purcell said that employment of private groups had been approved only because of the existing emergency.

For several months a statewide committee of architects and structural engineers has been working with state officials to find a means of relieving the overload on state employees (ENR Nov. 25, p. 35).

DEVELOPMENTS ABROAD

BIGGEST STEEL PRODUCTION CENTER in Europe has been under construction since 1947 in South Wales. The 1,1650-acre marshland site was reclaimed, using as fill sand dredged offshore and slag from nearby mills.

England—The largest steel works in Europe, and probably the biggest fully-integrated production steel plant in the world ever built at one time, is taking shape now at Margam in South Wales.

The plant is being built for the Steel Company of Wales—a joint venture of four British steelmakers: Guest Keen and Baldwin's Iron & Steel Co., Richard Thomas and Baldwins, Llanelly Associated Tinplate Companies, and John Lysaght & Co., Ltd.

Construction on the $350 million development was started in April, 1947, on a site encompassing 1,650 acres of marshland bordering the shore of Bristol Channel. When completed in 1951, the plant will be capable of producing 19,000 tons of pig iron and 29,000 tons of steel a week—of which 20,000 tons will be continuous hot-rolled strip and cold-reduction tinplate. This production would make the plant about the same size as the Geneva, Utah, steelworks built in 1940 by the United States.

The site is a marshy, sandy area, along the side of the tidal estuary, where 550 acres are being filled, levelled and covered with piles and foundations for the new work. The shape of the site and the principle of the strip mill both favored a relatively long narrow layout, but before the foundations could be completed, the ground level had to be raised about 12 ft. by mixed slag and sand filling. More than 30,000 piles, mostly cast-in-place concrete, have been placed, and some of the plant buildings whose early completion will facilitate later erection work are nearly finished.

Sand stabilization will be undertaken on the edge of the dune bordering the site. The project was inaugurated under the British Steel Industry's postwar expansion and modernization scheme, under private enterprise control, and supervised by the government's Iron and Steel Board. U. S. built equipment which is to be used in construction and operation of the mill was ordered privately in advance of the European Recovery Program, and will not be financed by this plan.

Three principal contractors—George Wimpey & Co. Ltd.; Sir Robert McAlpine & Sons, Ltd.; and John Laing & Sons, Ltd.—employed nearly 5,000 building workers on the site.

Raising of the general level of the land is being dealt with by using materials close at hand. The existing sand mills provided unlimited quantities of material for fill, and old slag piles from nearby mills are providing a top layer. The bulk filling of sand is being done by use of a dredge.

Construction problems

Among the other problems presented was the laying of nearly 30 miles of railroad track; provision of heavy reinforced concrete foundations for machinery in the new plant; construction of cable and water service tunnels stretching for 7,800 ft. and many bridges.

One of the most difficult jobs was to carry out alterations to the existing steel works, while work proceeded within them. Being the biggest steel producer in Britain today, the plant could not be taken out of production.

Bridges

India—Construction has begun on a new bridge across the Mahanadi River, near Sambalpur. The bridge, estimated to cost $3,000,000 will form an important road link on the national highway between Bombay and Calcutta, and it will facilitate quick transportation of machinery and materials for the building of Hirakud Dam in Orissa.

Public Construction

Puerto Rico—The Puerto Rico planning board has recommended to the Governor and the Legislature a public works program, for the six years 1949-55, involving appropriations that amount to $31,276,900. Out of this total $5,029,600 would be applied to plans proposed for the forthcoming fiscal year. Schools, hospitals and roads top the list of those public improvements for which funds will be allocated.

Mexico—Public Works—completion of those under way and new ones—will take the major share of the 1949 budget (reportedly around $25,000,000) of the Federal District (Mexico City). Largest feature of the waterworks phase, completion of an aqueduct from the Lerma River, will involve an expenditure of $4,500,000.

Airports

Puerto Rico—The sum of $4,000,000 has been recommended for construction of Isla Verde International Airport, out of which $2,600,000 will be used in the first year of construction. Added to the total appropriation, for a six-year program, will be $5,000,000 of the federal government funds.

India—Government engineers and airline executives have agreed that among the first projects to be taken up in the development of Bombay's Santa Cruz Airport should be a five-story terminal building to house offices, civil air headquarters, customs and airline offices. Cost of the structure has been set at $1,500,000; an additional $300,000 will be spent on interior decoration, so as to give a good first impression of the country.

Ahmedabad, roughly 150 miles north of Bombay, has meanwhile been selected to be the site of the country's fourth international airport (after Bombay, Delhi and Calcutta). Here $600,000 is to be spent on a terminal

building and another $300,000 on immediate runway and hangar extensions.

Germany—Airliners flying the Berlin airlift will soon be able to use the new airfield at Celle, near Hanover, in the British zone.

Celle, a wartime Luftwaffe transport airdrome, formerly had temporary runways unsuitable for heavy aircraft. Now, orders have been given to rebuild it to standards required by the heaviest aircraft on the airlift. A detachment of experts from an RAF Airfield Construction Wing is supervising the work of 1,400 Germans.

The new 2,000-yd. runway, taxiways and hard standings will cover a total area of some 314,000 sq. yd. of newly laid tarmacadam. The make night flying easier, 350 flood lights will be installed.

Italy—The new international airport of Malpensa, 40 miles from Milan, has been opened to traffic. Construction will begin shortly on a new five-mile stretch of highway to link the airport with the main Varese-Milan roadway.

ERP funds have been earmarked by the Italian government for the construction of airports at Genoa, Florence and Rome. Work on these projects is to be completed in 1950.

Malaya—Changi Airport is expected to be ready for international service by the midle of 1950, according to an announcement by Air Vice-Marshall S. F. Storrar, Director of Civil Aviation for Malaya. This enlargement of the Singapore airport is an effort to make that city one of the large air centers of the world.

Industrial Construction

Mexico—Completion of plans for the erection of two big office buildings in the heart of Mexico City is indicative of the long-continued construction boom under way in ths country. Large banking interests are to build both. A 32-story structure estimated to cost $2,750,000 will be put up by the Banco Internacional, and the other, 14-stories, will be erected by the Banco Nacional de Mexico at a cost of $1,800,000. The former structure will become the highest building in the Mexican capital, just twice as high as the present record holder.

Argentina—The Department of Industry and Commerce of Argentina has announced a plan to build a 1,500 barrel-per-day cement plant in the Province of San Luis, in western Argentina.

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FLOODS

THEIR HYDROLOGY AND CONTROL

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MEN AND JOBS

City Engineer J. R. Wood of Calgary, Alta., has retired.

William F. Bingham of the Heart Mountain division of the Bureau of Reclamation, Cody, Wyo., has become consultant for the Venezuelan government at Caracas.

Charles W. Breed, Western Springs, Ill., has retired as engineer of standards, Burlington Route, Chicago, following 50 years of railroad work mostly on western railroads.

Elliott R. Bowman has retired after 30 years with the Vicksburg, Miss., levee district and the Mississippi River Commission.

The Albright Foundation Corp. has been established at 1245 Madison Ave., New York 28, N. Y. as engineering contractor in the field of difficult underpinning and foundation work. **Edward P. Albright** is president and **Francis Bortoccini**, vice-president.

Alexis J. Mortola, C. E., Cornell University, 1927, M.C.E., Polytechnic Institute of Brooklyn, 1938, has been appointed engineer in charge, division of substructures, in the offices of Borough President James A. Burke of Queens, City of New York.

Martin Nelson has been appointed chief engineer of sewers in the office of Boroughs President James A. Burke of Queens, City of New York.

Pennsylvania's Highway Department has announced appointment of

(*Continued on page 28*)

Speeding work on the giant multi-purpose Clark Hill project on the Savannah River, 22 miles from Augusta, Ga., are left to right: Ted Neelands, Corps of Engineers; Grady L. Bain, resident engineer, Corps of Engineers; C. D. Riddle, project manager, Allstates Constructors, Inc., contractors; Wellington Wright, Atlanta Constitution; and Fred Marane, assistant resident engineer, Corps of Engineers.

Recent promotions in New York City's Department of Public Works include (left to right): Joseph Cunetta, Sigvald W. Steffensen, W. A. O'Leary to project manager, deputy chief and chief, respectively, of the bureau of sewage-disposal design, and Viggo Westergaard to project manager for refuse-destructor plants.

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AMAZING BWH WIRE BRAID STEAM HOSE

Here's the armored steam hose you've been looking for! It's dependably rugged, and it satisfies the most rigid safety requirements. That's because BWH technologists have spared neither time nor effort in making Concord #10 Steam Hose the best hose of its kind we've ever produced. Here are 6 reasons why this hose will serve you better:

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2. It's muscled with braids of high-tensile steel wire, resistant to heat and high pressure.
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4. An entirely new method of static control is the crossed wire braiding in the asbestos section — every length tested.
5. The cover is extra tough to resist abrasion, specially designed to resist high temperatures.
6. Because no cotton duck is used, Concord #10 gives longer service on constant pressure steams.

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When you need steam hose that's lightweight, flexible, rugged and SAFE, think of BWH Concord #10. It's your best bet . . . the safest we've ever made!

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(1) This 101-year-old cast iron water main is serving Frederick, Maryland.

(2) Still in use after 118 years of service in the water supply system of St. Louis, Mo.

(3) This water main, installed 117 years ago, is still serving Richmond, Va.

(4) Lancaster, Pa. laid this cast iron water main 105 years ago. It is still serving.

(5) One of several cast iron water mains that have been serving New York City for more than a century.

(6) America's oldest cast iron water main, now in its 132nd year of service in Philadelphia.

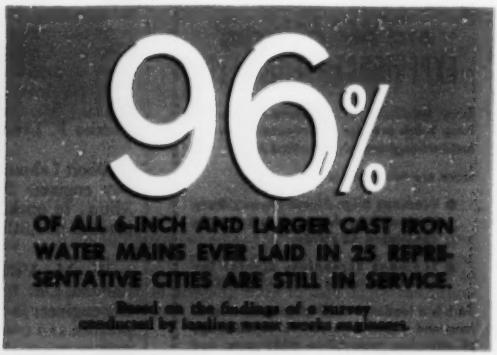
(7) This cast iron water main has been serving Boston for 120 years.

Going strong in their 2nd Century

About 30 of the older American cities have cast iron water or gas mains in service which were laid from 100 to 132 years ago. Most of these mains, on or after their 100th Anniversary, have been uncovered, inspected and photographed for the record. Seven of them—all water mains, are shown in this advertisement.

While it is well known that cast iron water mains in England, France and Germany have service records that approach three centuries, we, who make cast iron pipe, nevertheless get a thrill out of looking down into the trench at an uncovered section of a main that has been in service for 100 years—and so, we are told, do water works and gas engineers.

When one considers the radical changes which have occurred in a century in vehicular traffic, and the vast development of underground construction for the many utility services, the fact that these mains are now in their second century of service is all the more remarkable.



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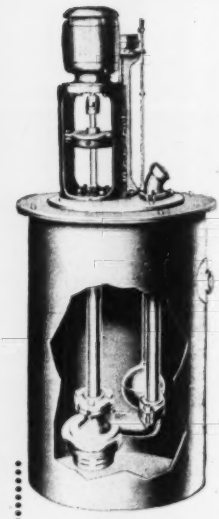

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YEOMANS

(Continued from page 24)

the following engineers: **Clifford E. Tunstall,** of Pittsburgh, project engineer, and **Thomas C. MacFarland,** of Charleroi, project engineer, both in the Pittsburgh District 11 office, and **Neal MacNeal,** Philadelphia, project engineer, and **James R. Dibiase,** Upper Darby, assistant district construction engineer, both in the Ardmore District No. 6.

George N. Schoonmaker, Toledo, Ohio, who went to work for the city in 1906 as a rodman in the engineering division, and served almost continuously since then, has resigned as city manager. He participated in designing and construction of the lake water system. **Arnold V. Finch,** of city engineering commission, has been nominated to succeeed him.

Major O. A. Lewis, Boise, Ida., resident engineer of the Corps of Engineers, has been assigned chief of examinations and survey section and coordinator of work on the levee and channel design section of the Columbia Basin project. He will be at the Walla Walla district office.

H. E. Glenn, chief of planning of the South Carolina Research, Planning and Development Board since three months after it was organized in 1945, is returning to the engineering staff of Clemson College which gave him a leave of absence to allow him to help with the development board's organization. Mr. Glenn's place is taken by **Charles F. Lynn,** civil engineer.

Albert Lehman has resigned as highway engineer for Morrison County, Minn., to open a private engineering practice in Little Falls, Minn.

W. M. Veitch, city engineer of London, Ont. has resigned. Appointed city engineer in 1932, he enters private practice as a consultant on sewage and garbage disposal problems.

Kenneth N. Phillips, a government employe for 28 years, has been appointed district engineer of surface-water investigations for the U. S. Geological Survey at Portland, Ore.

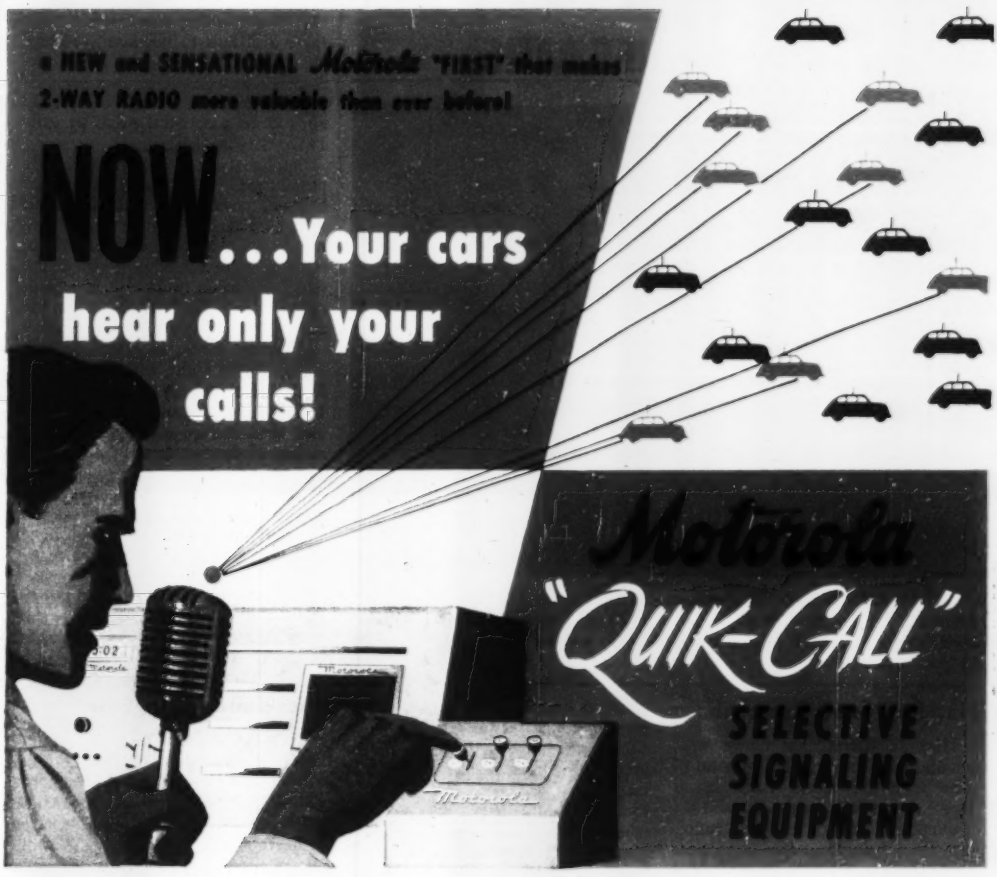
Ray H. Leavitt, chairman of the Utah State Road, Engineering and Building Commission, has resigned to join the sales staff of the Yancey Co. of Salt Lake City, contractors.

Stephen A. Wakefield has been appointed assistant director of the new Flood Control and Water Use division in Kentucky.

ress being made on the construction of MUTUAL SATISFACTION with prog- 5,500 ft. of 7 x 6½-ft. concrete arch sanitary and storm water relief sewer in Lansing, Mich., is registered by Glenn P. Manz, director of public service and city engineer, left, and W. E. Fry, construction superintendent for the contractors, Fry and Kain, of Lansing.

DISCUSSING the paving of Crater Road, Petersburg, Va., with high early strength air entrained concrete. Left to right, E. L. Coile, field engineer, Portland Cement Association; Whitworth Cotten, city engineer; R. M. Puryear, Virginia Highway Department; and W. H. Scott, of W. H. Scott, Inc., Franklin, Va., project contractor.

L. R. DURKEE, left, division engineer for the Federal Works Agency, recently handed E. R. Hoffman, superintendent of lighting, a blue check requisition for $411,972.73 as the final payment in a Lanham Act grant of $1,845,809.39 awarded Seattle City Light to expedite completion of the second stage of the Ross Dam on the Skagit River. FWA came into the picture after the War Production Board in 1942 pressed Seattle City Light to undertake completion of the world's highest concrete arch dam to provide more electric power for essential war needs. The project will cost approximately $28,000,000.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MUNICIPAL AFFAIRS

THE SNOW PROBLEM—This winter scene in Times Square, New York City, has been duplicated in many northern and mid-western cities (to say nothing of Los Angeles, Calif.) this winter. Snow removal work adds many millions of dollars to the annual budgets of American cities in the snow belt.

Hartford Snow Removal

Hartford, Conn., has drawn wide attention for its successful removal of snow from the streets. Rock salt is used extensively and Royal W. Thompson, public works director, says there have been few complaints of damage to automobiles from that source. In some places a phosphate concentrate is used to overcome the danger of corrosion of metal on cars from the saline treatment of the streets.

Economical School Building

As a result of economies in design, selection of materials and construction methods, New York City saved more than $5,000,000 in the cost of new schools during 1948 and will save more than twice that amount in 1949, in the opinion of Anthony Campagna, chairman of the committee on buildings and sites of the Board of Education, and a builder of residential structures.

Mr. Campagna acknowledged that the voluntary cooperation of a committee representing contractors in presenting many helpful suggestions on cost reduction "has been one of the keys to our success in proceeding with new construction."

"The program of economy is such that firm bids for recent school buildings have approximated, and in some instances have been below the budgetary allocation," says Mr. Campagna. "They were based on an 85% increase over 1939-40 prices as against an actual increase of 135% to 140%. With such husbandry of public funds the school building and improvement program has not suffered one whit, nor have our standards of efficiency and educational requirements been lessened."

Mr. Campagna emphasized that with the cooperation of contractors, the building program has been moving ahead at an average cost of only $1,429 per pupil in the high-price New York area, against a national average of $1,400 per pupil as reported by the National Education Association. He also expressed gratification at the spirit of public responsibility by contractors, made possible in part by the elimination of burdensome and unnecessary contract clauses, which he had sponsored.

Tacoma's Dam Problem

The Washington State Department of Conservation and Development has taken under advisement the petition of Tacoma for a permit to build a hydroelectric dam at Mossyrock on the Cowlitz River south of the city.

The city already has a permit for a dam at Mayfield, 12 mi. downstream, and will "have to investigate fully the advisability of building a single dam" there if it fails to obtain the Mossyrock permit, according to C. A. Erdahl, Tacoma public utilities commissioner. "Both dams would completely fill Tacoma's electrical needs by early 1952," Erdahl declared.

Opponents of the hydroelectric project, led by the state department of fish and game, urged that the permit be denied and the whole matter submitted to the legislature. Milo Moore, state fisheries director, declared the dams would destroy 243 mi. of salmon spawning area and jeopardize an industry worth $1,000,000 annually.

J. Frank Ward, superintendent of Tacoma City Light, testified the utility has spent nearly $350,000 in obtaining permits and surveys on sites and that the value of the electrical output of the two dams at their maximum use would be $9,000,000.

Elmer H. Kennedy, legislative representative of the Washington State Federation of Labor, said that, if there had to be a choice between raw material such as the fish of the Cowlitz, which would provide few jobs, and the power dams, which would provide many, labor would have to favor power.

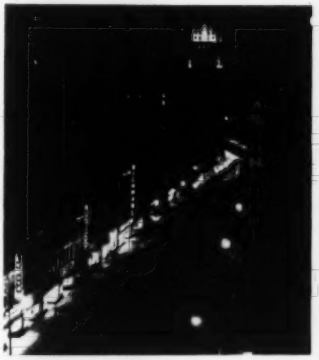
Cleveland's Lake Front

Despite a recent adverse decision by the Ohio Supreme Court which held that the rights of private property owners were infringed by construction of a drive on the lake front at Cleveland, Ohio, the city has no intention of stopping the development, officials, headed by Mayor Thomas A. Burke, indicated. The city is willing to work out a settlement with the private owners of upland shore holdings, or to carry on the lake-front ownership legal battle for "another 50 years, if necessary," according to the mayor and Law Director Lee C. Howley.

The Ohio Supreme Court reversed the Cuyahoga County Appellate Court as to the ownership of filled-in lands along the Memorial Shoreway and ordered the case returned to the Cuyahoga County Common Pleas Court.

The state court unanimously held that the owners of land fronting on Lake Erie have a right to wharf out to navigable waters for purposes of navigation, so long as they do not interfere with the federal government's right to establish harbors and control navigation, and the state government's right to use submerged lands.

Further, the court held the state or the city of Cleveland could cut off the littoral rights of upland owners, as has been done by the creation of filled-in land, without compensation, if the taking is in aid of navigation.



LARGE STREET LIGHTS—The first installation of what are said to be the world's largest street lights was completed in the business district of Akron, Ohio, on Dec. 20. The 25,000-lumen lights are 21 in. dia. and nearly 36 in. high. Manufactured by General Electric for use with lamps rated as high as 1,500 watts, 65 of the luminaires are located along five blocks of the city's main street. About 180 fixtures will comprise the entire installation.

Municipal Notes

General plans for the construction of a system of trunk and lateral sewers to provide East St. Louis, Ill., with protection against flash floods and similar emergencies have been worked out by officials of East St. Louis and the East Side Levee and Sanitary District, which operates in St. Clair and Madison counties, Ill.

To avoid squabbles between citizens and the city, Toledo, Ohio, sidewalk repair operations have been made into a co-ordinated city-wide program. A special council study group has approved rules and regulations outlining what constitutes a defective sidewalk, the resultant definitions are concise and explicit.

Bids for the construction of an additional 9,640 seats at the Pasadena, Calif., Rose Bowl have been requested by Robert McCurdy, assistant city manager. New construction, expected to cost between $300,000 and $400,000, would raise the seating capacity to 102,000.

The municipal public works department of Winston-Salem, N. C., has been divided into these six sub-departments: Buildings and grounds, water works and sewerage; inspections; sanitation; garages and transportation; and general engineering work plans, and paving and maintenance of streets.

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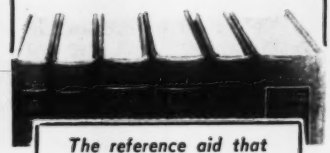

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OBITUARY

William B. Powell, 77, former traffic engineer at Buffalo, N. Y., died Jan. 3 in Daytona Beach, Fla. A graduate of Stevens Institute of Technology, Mr. Powell served as traffic engineer in Buffalo from 1936 to 1938. He was responsible for the completion of safety programs in Rhode Island and South Carolina.

Enoch C. Bosher, 60, one-time construction inspector for the Army Engineers, died Jan. 8, in Washington, D. C. He joined the engineers in 1930 and served as senior inspector of construction of runways at the National Airport in Washington, and later on the construction of several government airfields in Florida.

Thomas D. Mylrea, 62, former chairman of the University of Delaware's department of civil engineering, died Jan. 19. A civil engineering graduate of the University of Illinois, he started with the Illinois State Highway Commission as an inspector of bridges. In 1922, he joined the faculty of the University of Illinois as an assistant professor of civil engineering, and later became associate professor. In 1927 he became professor of building construction at the Carnegie Institute of Technology, and remained at that post until he went to the University of Delaware in 1934.

Lester H. Knoch, associated with the Little Rock, Ark., office of the Corps of Engineers, as assistant head of the engineering design branch during the last six years, died recently.

Richard P. Hawes, 75, an engineer of naval ordnance at the Washington Navy Yard for 50 years prior to his retirement in 1941, died Jan. 14 in Washington, D. C.

James Ferris Seiler, 64, expert on wood construction and bridge design for the American Wood Preservers Association in Washington, D. C., died Jan. 16 in that city. Mr. Seiler joined the association as senior engineer of its service bureau in 1931. Before he went to Washington, he was bridge engineer for the Wyoming highway dept., for eight years. He attended Wooster College in Ohio and was graduated from the University of Michigan. He designed the combination timber and concrete deck used extensively on timber highway bridges.

William H. Bertram, 64, chief engineer of sewers in the Borough of Queens, N. Y. City, and a director of Queens County Chapter of the New York State Society of Professional Engineers, died recently.

Will P. Watson, 59, of Hamilton, Ohio, died recently. A civil engineer, trained at Oklahoma A & M and MIT, he was connected with the Morgan Engineering Co. and Miami Conservancy District until August, 1917. He served in both world wars and was colonel in the Reserve since World War II. Since 1921 he has been manager and for four years also president of The Hamilton Gravel Co.

Brig. Gen. Raymond F. Fowler, 64, executive director of the Georgia State Ports Authority, died in Atlanta, Jan. 19. A West Pointer, he served in the Savannah district engineer's office from 1936 to 1940. He retired from the Army in 1945 and was appointed to the Ports Authority position, and was active in developing Georgia ports.

Albert L. Pearson, 89, of West Somerville, Mass., a former engineer in the construction division of the Metropolitan District Commission, died in Boston, Mass., Jan. 20.

Thomas Richard Ginn, contractor, died in Detroit, Mich., Jan. 14. He went to Detroit in 1893 and in subsequent years built the old Detroit Studebaker plant, several buildings for the University of Detroit, many of the big mansions in Grosse Pointe, and a number of Detroit public buildings.

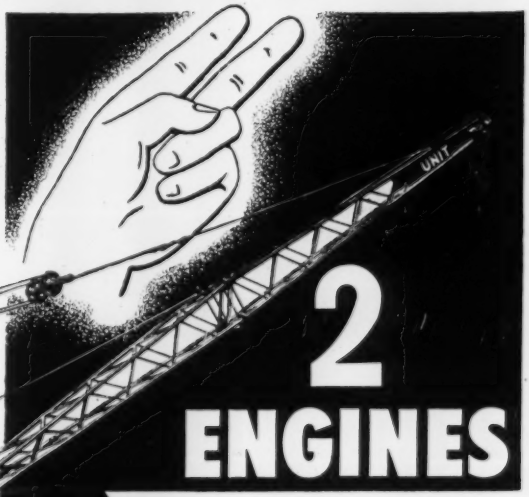
W. Green Deschamps, 59, former vice-chairman of the South Carolina Highway Commission, died Jan. 14, at his home in Bishopville, S. C.

Reginald Heber Thomson, 92, died Jan. 7 at Seattle, Wash., where he had lived since 1881, serving as city engineer from 1882 to 1911. Mr. Thomson was graduated from Hanover, Ind., College in 1877. During his service as city engineer, he introduced concrete walks and hard-surface pavements, designed and built the city's water supply system and its first hydroelectric plant. He initiated and carried through two regrading projects which moved more than 16,000,000 cu. yd. of earth from two hills blocking the city's business progress down to the tideflats, creating the Harbor Island area now alive with industrial plants. As special engineer for the state, Mr. Thomson designed consolidated make-up and break-up yards for all railways entering Seattle. He was a consulting engineer for the Washington State Toll Bridge Authority on the Lake Washington floating bridge.

UNIT 1014

10 TON TRUCK CRANE WITH DUAL POWER

BOOM IN FOLDED POSITION FOR TRAVELING



- One Engine for Speed and Mobility
- Another Engine for Lifting or Digging
- Gas or Diesel Power
- Road Speed: 32 M.P.H.
- Capacity: 10 Tons

One look at the UNIT 1014 will convince you that here is Truck Crane design at its best. Perfectly balanced, it has modern, adjustable hook-roller construction. Power flows from the truck engine in a direct straight-line drive to the tandem rear axles, both of which drive. A separate engine powers the upper structure, and may be either gas or diesel. Double, full-width outriggers provide added stability. This streamlined unit has 5 speeds forward and one reverse, with an auxiliary transmission offering 10 speeds forward and 2 speeds reverse. A road speed of up to 32 M.P.H. makes "going from job to job in a hurry" a simple matter. Large diameter, wide-faced air brakes are used on all 4 rear wheels. A hand operated, shoe type parking brake is provided on the propeller shaft. A short turning radius increases its value in close-quarter operations, and all dimensions meet highway requirements.

UNIT CRANE & SHOVEL CORP.
6315 W. BURNHAM STREET, MILWAUKEE 14, WISCONSIN, U.S.A.

- Other UNIT Models are available in ½ and ¾ Yd. Excavators and Cranes up to 15 Tons . . . Crawler or Mobile Types . . . Fully convertible to ALL attachments.

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See ad on page 35 for list of equipment in each line

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BUY BLUE BRUTES

Worthington Pump and Machinery Corp.

Construction Equipment Department

Harrison, N. J.

Elections and Activities

New officers of the Keystone Building Contractors Association, Pa., are: Morris E. Stoudt, Allentown, president; Raymond J. Noonan, York, secretary-treasurer. New members of the board of governors are: Foster Berkebile, Johnstown; Raymond Johnson, Lewistown; Stanford C. Seiple, Sunbury; Paul E. White, Carlisle. L. Verne Lacy, Wilkes-Barre; Ellsworth C. Machin, Allentown, and Joseph H. Ore, Altoona, were re-elected.

The Arizona Section of the American Society of Civil Engineers has installed John A. Baumgartner, Tucson, as president. Other officers are John Girand, Phoenix, vice-president, and Dario Travaini.

Col Coke S. Matthews of Winter Park, Fla., has been appointed commanding officer of the 3009th Engineer Combat Training Group.

Connecticut Rural Roads Improvement Association has elected the following officers: President, Louis G. Tolles, Southington; vice-president, Robert C. Michell, Southbury; treasurer, A. Ward Spaulding, Suffield; and secretary, E. W. Latimer, South Coventry. Directors: Fred Beckwith, Niantic; William N. Loring, Wallingford; Clarence E. Costales, New Canaan; Alva Miller, Chaplin; William H. Curtiss, Bridgewater; G. Fred King, Old Saybrook; and Oliver C. Pease.

Officers of the Kentucky Section ASCE elected to serve during 1949 are: Floyd F. Schrader, president; J. Frank Grimes, vice-president; Cedric L. Cowan, secretary-treasurer; and John Clark, corresponding secretary. Appointed as representatives on the Louisville Engineering and Scientific Societies' Council were C. L. Cowan and C. W. Lovell.

Floyd F. Schrader, district engineer of the U. S. Geological Survey, at Louisville, Ky., is the new president of the Kentucky Section of the American Society of Civil Engineers. Other officers: Vice-president, J. Frank Grimes; secretaries, Cedric L. Cowan and John Clark, both of Louisville.

Anthony Wayne Chapter, Fort Wayne, of the Indiana Society of Professional Engineers, has elected Kenneth K. Cooper, president; Ralph W. Walb, vice-president; and Robert E. McKibbin, secretary-treasurer. Richard J. Erb, past president, was named state director.

B. J. Bucheit, secretary-treasurer of Joseph Bucheit & Sons Co., Youngstown, Ohio, has been elected president of the Builders Association of the Mahoning Valley.

Blair Reith, Goshen, Ind., has been re-elected president of the Indiana Highway Constructors. Other officers re-elected are R. L. Schutt, Indianapolis, vice-president; E. B. Johnson, Indianapolis, secretary-treasurer, and W. M. Holland, Indianapolis, executive secretary.

Harold C. Trester of Oshkosh was elected president of the Fox Valley chapter of the Wisconsin Society of Professional Engineers. Arthur E. May, Appleton, was elected vice-president, Wayne G. Bryan, Neenah, Secy.-treas., and James E. Bamberry, Kaukauna, Francis J. Euclide, Green Bay, Howard G. Plank, Manitowoc, directors.

Jesse Rosenwald, San Francisco consulting engineer, has been elected president of the Structural Engineers Association of Northern California. Arthur W. Anderson of Corlett & Anderson, architects and engineers, Oakland, was named vice-president. G. A. Sedgewick, structural engineer with W. P. Day & Associates, San Francisco, and Harold Sjoberg, N. H. Sjoberg & Sons, general contractors, Oakland, were chosen directors. Directors will select a secretary and treasurer.

The Northern California chapter, Associated General Contractors of America, has elected the twelve directors for 1949: Gordon H. Ball, N. M. Ball Sons, Berkeley; Al Biasotti, Louis Biasotti & Son, Stockton; Charles L. Harney, Charles L. Harney, Inc., San Francisco; George C. Loorz, Stolte, Inc., Oakland; H. C. Maginn, Calaveras Cement Co., San Francisco; B. F. Modglin, M-K Corp., San Francisco, H. Earl Parker, H. Earl Parker, Inc., Marysville; Robert N. Pomeroy, J. H. Pomeroy & Co., Inc., San Francisco; A. G. Raisch, A. G. Raisch Co., San Francisco; Jack How, E. R. Bacon Co., San Francisco; A. E. Holt, Guy F. Atkinson Co., South San Francisco; Harold O. Parish, Parish Bros., Benicia.

R. Hugh Daniel is the newly elected president of the Alabama Branch of the Associated General Contractors of America. C. C. Wilborn was selected first vice-president; Houston Price, Jr.,

(Continued on page 36)

Two of A. I. Savin Corporation's four 500′ Blue Brute Portable Air Compressors that are setting an example for dependable service

TOUGH GOING!... BUT BLUE BRUTES ARE TOUGHER!

On jobs like the Boston Post Road relocation project — with rock cuts containing 70,000 yds. in a single pocket — you soon find out what your air equipment can do!

A. I. Savin reports 100% satisfaction from Worthington Blue Brutes. It's easy to see why. Blue Brute 500′ Portable Air Compressors are packed with such advanced features as full force-feed lubrication and easy-breathing Feather* Valves—the most efficient ever made. No wonder these "portable powerhouses" have stood up under long, gruelling service without an extra minute down or an extra cent spent for repairs!

Also, Blue Brute UMW-40 Wagon Drills are the most versatile in the field . . . fast, powerful drilling machines that swing into action at any angle, to make short work of the toughest rock formation!

Adding up, here's a completely dependable air supply and air tools that make the most of it . . . a typical Blue Brute team that is beating schedules the country over. For further details that prove *there's more worth in Worthington*, see your nearby Blue Brute Distributor (listed on page 34) or write us direct.

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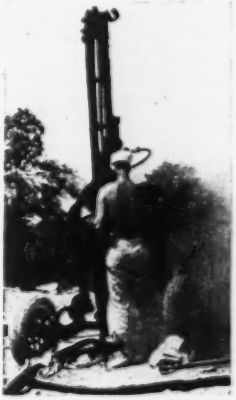
HS-8

HERE ARE THE FACTS

The A. I. Savin Corporation is using Worthington Blue Brutes to make a fast, economical job of one of the country's most difficult stretches of highway construction — 19,500 ft. straight through rocky, coastal Connecticut terrain on the relocated Boston Post Road.

Savin's Blue Brute 500 Portable Air Compressors feed a battery of drills, wagon and hand-held. They have supplied air almost continuously for 5,000 hours at full rated capacity — without anything but routine, after-hours servicing!

The Blue Brute UMW-40 Wagon Drills on the project match this performance with consistent drilling through 22 ft. of mixed rock in 10 to 12 minutes!



Making fast speed through mixed rock! One of A. I. Savin's UMW-40 Blue Brute Wagon Drills in action

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IF IT'S A CONSTRUCTION JOB, IT'S A BLUE BRUTE JOB

Do you know the actual cash value of your machinery?

Probably not . . . unless you've had an appraisal made lately.

Yet, it's important to weigh and record these values periodically (1) so that you will know what is adequate insurance protection for your machinery investment and (2) so that you will have the information, in the event of a disaster, to present in support of a claim. Such information is required by all insurance companies. Look at *your* policy!

The Hartford has just produced a machinery inventory booklet entitled "Your Machinery and its Actual Cash Value." It contains simple examples and forms which illustrate a correct method of arriving at values for insurance purposes.

"Book" values are not actual cash values!

Charging off a fixed percentage (based on the supposed useful life of a machine) to depreciation year after year . . . will not show the machine's *actual cash value.*

In most cases, the *actual cash value* of a machine is considerably higher than its "book" value. That's why, to avoid underinsurance . . . and perhaps a large financial setback, it's vitally important to insure your *actual cash values.*

Weigh *your* values carefully! Send the coupon below for the booklet "Your Machinery and its Actual Cash Value." A copy will be sent without obligation to any machine owner requesting it. For insurance advice, see your Hartford agent or broker.

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second vice-president; J. Val Rives, treasurer, and J. B. Rawls was re-elected executive secretary.

P. B. Stroyan, superintendent for Vancouver parks, is the new president of the British Columbia Association of Professional Engineers, succeeding Prof. Frank A. Forward, University of British Columbia. The Association elected Thomas Ingledow, vice-president and chief engineer of B. C. Electric Railway Co., as vice-president. Council members are Forward, Cyril Jones, Victoria; R. W. Klinck, Vancouver; H. P. J. Moorhead, Powell River; Stanley Gray, Trail.

Donald B. Stabler, Harrisburg, has been elected president of the Associated Pennsylvania Constructors, succeeding W. C. M. Butler, now chairman. A. E. O'Brien was re-elected executive secretary, W. O. Taylor is vice-president; Herbert R. Imbt, treasurer.

Walter J. Parks, Jr., has been elected president of the Florida section, ASCE, E. M. Broadhurst is secretary-treasurer.

Officers of the Capital chapter, Illinois Society of Professional Engineers, are: A. M. Frost, president; J. P. Murphy, vice-president; D. S. Nelle, chapter representative; J. W. Marquardt, secretary; and L. D. Hudson, treasurer.

City Engineer Kenneth L. Chrysler of Billings has been appointed Montana chairman of the American Public Works association to co-ordinate state activities of the association.

John Henry Glender and James Walter Martin have received life memberships of the Alabama Section, American Society of Civil Engineers. Mr. Glender is an engineer with the contracting firm of Sullivan, Long & Hagerty, Birmingham. Mr. Martin is district engineer for Alabama, U. S. Public Roads Administration. Both have been members 35 years.

Philip B. Stroyan has been elected president of the Association of Professional Engineers of British Columbit. He was graduated in engineering, University of British Columbia.

A. D. Drumm of Fallon, Nev., has been re-elected president of the Nevada chapter, Associated General Contractors, for 1949, and Earl Games and Walker Boudwin, both of Reno, were elected first and second vice-presidents. C. V. Isbell, Reno, was chosen treasurer, and Isbell, Boudwin, and E. J. Maupin of Fallon were named directors for a three year period.

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Stretches Life of Drainage Systems

Resists Rust—Contains twice the copper usually used in copper-bearing iron or steel, *plus molybdenum.* It offers the highest rust-resistance of any ferrous metal in its price class . . . resists corrosion caused by soil, water and sewage.

Carries Heavy Loads—without cracking or crumbling. Is strong and resilient . . . resists damaging action of severe weather changes, settling earth, impact, vibration and other perils.

Stays in Line—is securely riveted . . . will not come apart at joints.

Easy to Install—economical to haul—simple to handle . . . in any weather . . . with unskilled labor. Speeds construction—cuts installation costs. Can be completely salvaged for re-use.

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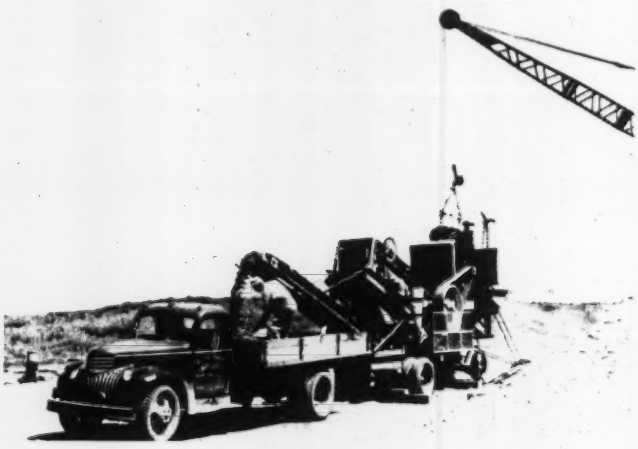


Portable Gravel Plant

This gravel plant consists of a 10-in. x 24-in. roller bearing crusher, a 2 ft. x 6 ft. single deck vibrating screen, 18 in. feed and delivery conveyors, and a diesel motor with V-belt drive. The operation of the plant is controlled by one man from the operator's platform. Material is brought up to the large gravity feed hopper with shovel or drag line bucket, where the feed conveyor picks it up and carries it to a single deck vibrating screen. The oversize off the screen is delivered to the jaw crusher and reduced to a usable size. The delivery conveyor receives the output of the crusher and the screen and loads directly into trucks. The parts of this light weight plant are mounted on a rubber tired chassis. This makes a practical outfit for jobs where it is not necessary that the crushed material meet a rigid specification. The crusher can be adjusted so that practically 100% of the crushed material will pass a 1-in. square opening. Capacity, when properly fed, is 1 ton per minute with 20% crushing. A similar plant is available with smaller crushers for use in pits where a smaller capacity is satisfactory.—Universal Engineering Corp., Cedar Rapids, Iowa.

Precision Hand Level

Features of an improved hand level which can be used in cross section work, road construction, excavation, building and bridge construction are the incorporation of the level vial inside the instrument; adjustment preset and maintained by spring tension; prism and lens mounted in a sturdy, one-piece frame.—Brunson Instrument Co., Kansas City 6, Mo.

Engine Starter

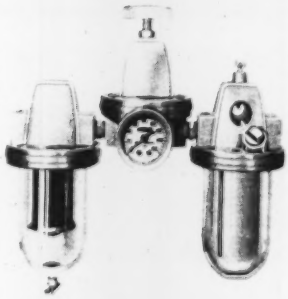
By use of a special quick-starting device cold weather starting difficulties with diesel and gasoline engines has been overcome. Chevron starting fluid, a product of the California Research Corp., is basically an ethyl-ether compound. It is packed in gelatine capsules, used with a special puncturing tool and priming system. The fluid flows at 70 degrees F. below zero. Additives lubricate as the engine is started. The fluid will not corrode metal parts.—California Oil Co., 225 Bush St., San Francisco, Calif.

Medium Sized Tournapull

Designed as medium-sized, high-speed earth-moving equipment, Model C Tournapull is used with Model E16 carryall scraper which has a capacity of 13.3 cu.yd. or 16 tons. Unit is powered by 150-hp., 6-cylinder diesel engine and has four forward speeds ranging from 2.19 to 17.3 mph. Steering, scraper bowl, apron and tailgate are controlled by individual electric motors operated by 240-volt a.c. generator built in line with the Tournapull engine. Constant mesh transmission gives instantaneous selection of gear ratios without shifting gears. Positive power two-speed electric steering gives complete maneuvering control. Equipment rolls on big 21 x 25 tapered bead tires under low operating pressure to increase flotation and traction in soft ground. Fuel capacity has been increased to 130 gal. Overall specifications of Tournapull, with scraper, are: length, 31 ft.; height, 9 ft. 3 in.; width, 11 ft. 4 in.; wheelbase, 18 ft. 2 in.; empty weight, 29,220 lb. Outfit can turn around in 14 ft. 6 in.—R. G. LeTourneau, Inc., Peoria, Ill.

Chain Vises

New chain vises simplify the process of taking apart roller chains, as the forged steel jaws hold the chain securely while properly applied blows with an ordinary drift will remove the pin quickly.—Baldwin-Duckworth Division of Chain Belt Co., 369 Plainfield St., Springfield 2, Mass.



Compressed Air Conditioner

A combination unit for conditioning compressed air prior to its use in tools, cylinders and other air-powered equipment has been announced. The manufacturer has combined a filter pressure regulator and lubricator in a compact assembly that first cleans the air, automatically controls its pressure, and then adds atomized oil for the internal lubrication of moving parts. It weighs only 10 lb. and needs only 12 in. in the air supply line.—Hannifin Corp., 1101 So. Kilbourn Ave., Chicago 24, Ill.

Hand Riveter

This is used for riveting brake linings to brake bands and shoes, either internal or external type such as are used on shovels, cranes, draglines and other heavy duty industrial machinery. It is suitable for handling linings up to 10 in. in width using Nos. 7, 8, or 10 series tubular rivets. It easily handles any length of rivet up to 2 in. long. With this riveter and an electric drill, brake bands and shoes can be relined in the field easily.—U. S. Asbestos Div. of Raybestos-Manhattan, Inc., Manheim, Pa.

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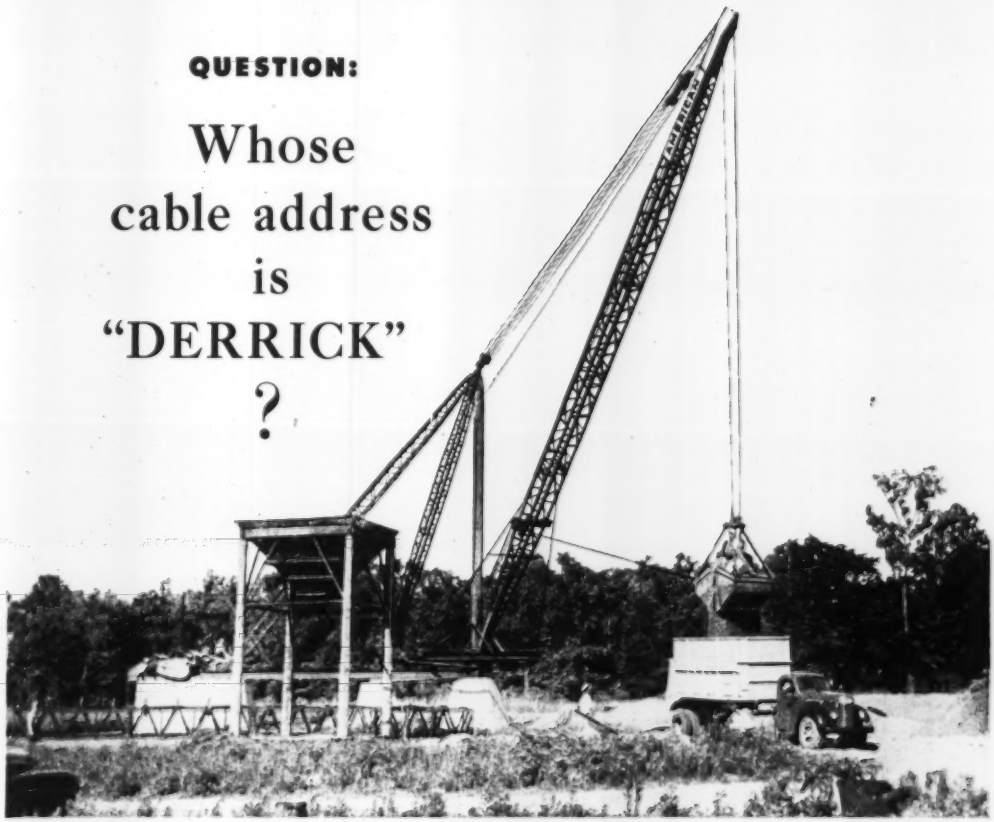
Whose cable address is "DERRICK" ?



From Johannesburg, South Africa or Point Barrow, Alaska . . . from Brisbane, Australia or Copenhagen, Denmark . . . if you want the best possible help in moving materials at lowest cost, just send a cable message with the simple address "DERRICK"!

All over the world, construction men know that "DERRICK" is the cable address of American Hoist and Derrick Company, at St. Paul, Minnesota or South Kearny, New Jersey. And that's an easy way for you, too, to remember that this organization has had more derrick experience than you'll ever need in a lifetime.

What kind of a derrick will you need next? Perhaps a stiff-leg, of the type shown here, for handling loose materials. Perhaps a steel erector. Perhaps something special—a big gallows frame, or gin pole, or a barge derrick. Whatever it may be, you can be sure that American Hoist has built it before, and knows how to build it *right*.

Your inquiry addressed to "DERRICK" brings you quick, intelligent service backed by a large staff of engineering specialists, and the facilities of derrick shops second to none. Our line is the most complete offered anywhere—derricks of all types, all sizes, from 3 to 250 tons capacity. Would you like a general catalog? Just mail the coupon.

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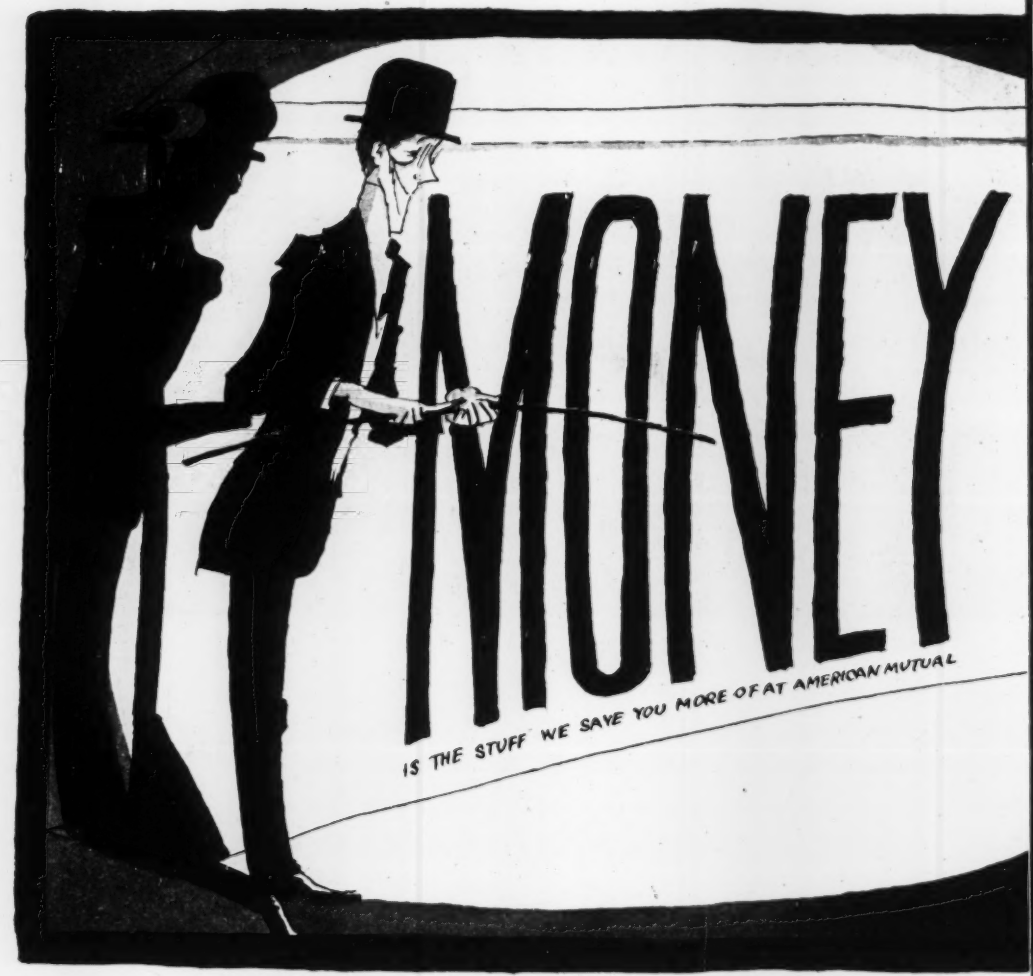
3

IF YOU CAN READ THE

(YOU'LL BE INTERESTED IN THIS AD)



THE one thing most contractors don't like about insurance *is having to pay for it!*

Now, we can't do away with payments but we can make those unpleasant premiums smaller and smaller and smaller (enough smallers!)

For instance: We helped an Alabama contractor to reduce his premium rates from 28.7% above the average for the field to 6.9% less than the average!

We helped a Virginia construction company reduce their premium rates to 33.2% below the average for the field!

And so on . . . We can show you dozens of cases where Dat Ole Debbil, Premium, was cut down to size . . .

That's part of our Specialized Engineering Construction Service. We help you reduce accident hazards and you don't pay as much for protection.

So you pocket the money . . . and you buy yourself a yacht and a good cigar!

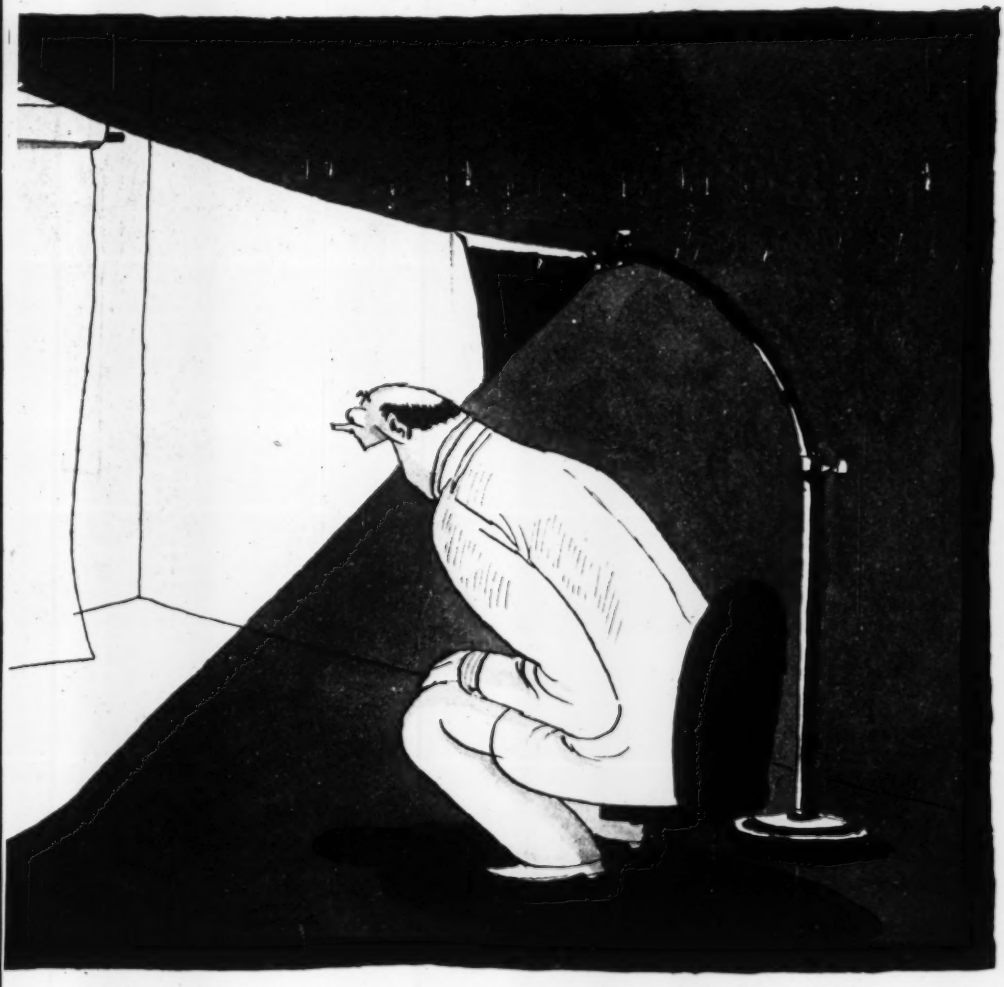
While we're helping reduce accidents and premiums, we show you ways to speed up work and cut down on lost time.

So you make more money . . . Have another yacht on us!

AMERICAN MUTUAL . . . *the first American liability insurance company*

© 1949 AMERICAN MUTUAL LIABILITY INSURANCE COMPANY

FIRST LINE . . . by Mr. Friendly



And all this service is included at no extra charge with every industrial policy.

But hold your breath! Here's the best part . . .

Despite rising costs (which you may have heard about), we still give you the chance to save 20% through dividends! . . . 20 cents on every insurance dollar.

That's money, mazuma, wampum, do-re-mi, sheckels, the green folding stuff... That's what we save you more of at American Mutual!

P.S. Why not send today for 2 free illustrated text books, "Surface Construction without Accidents" and "Foremanship and Accident Prevention in Construction."

MAIL THIS COUPON NOW — WITHOUT DELAY!

Dept. O-77, American Mutual Liability Insurance Co.
142 Berkeley St., Boston 16, Mass.

Without obligation, please *rush* to me more information on the All-American Plan, so that I may be richer and happier!

*Name*_____

*Street*_____

*City*_____ *State*_____

Cut costs with the rope that lasts longest

Contractors are saving with Preformed "Blue Center" Wire Rope

WHEN YOU ASK "HOW LONG," don't think merely of a rope's length; think of how long it will stay on the job! The rope that lasts longest, costs you the least . . . and that's why contractors are turning to Roebling Preformed "Blue Center" Steel Wire Rope. "Blue Center" Steel—made only by Roebling—gives wire rope *extra* ability to withstand strain, abrasion and shock loads.

PREFORMED SPEEDS OPERATIONS, TOO. Roebling Preformed saves handling and installation time because it is not inclined to set or kink. You can cut it without seizing, and there's less trouble in applying fittings. In operation, Preformed is largely free of vibration and whipping . . . gives top performance despite severe bending, small sheaves and reverse bends.

FREE ENGINEERING SERVICE. Have your Roebling Distributor help choose the *right* wire rope for genuine economy on your equipment. If you have any special problems in the selection, installation or maintenance of wire rope, your Distributor will promptly get the assistance of a Roebling Engineer. John A. Roebling's Sons Co. of Calif., 1740 17th St., San Francisco, Calif.

WRITE OR CALL THE ROEBLING FIELD MAN AT YOUR NEAREST ROEBLING OFFICE AND WAREHOUSE

Atlanta, 933 Avon Ave. ★ *Boston*, 54 Sleeper St. ★ *Chicago*, 5525 W. Roosevelt Rd. ★ *Cleveland*, 701 St. Clair Ave., N. E. ★ *Denver*, 1635 17th St. ★ *Houston*, 6216 Navigation Blvd. ★ *Los Angeles*, 216 S. Alameda St. ★ *New York*, 19 Rector St. ★ *Philadelphia*, 12 S. 12th St. ★ *Pittsburgh*, 355 W. North Ave. ★ *Portland, Ore.*, 1942 N. W. 14th Ave. ★ *San Francisco*, 1740 17th St. ★ *Seattle*, 900 First Ave.

ROEBLING

☆ A CENTURY OF CONFIDENCE ☆

MATERIALS AND LABOR PRICES

Market quotations on construction materials and wage rates reported monthly by ENR correspondents

March Materials and Labor Prices will appear in the March 10, 1949 issue

CEMENT, AGGREGATE, READY-MIXED CONCRETE — F. O. B. CITY

	PORTLAND CEMENT* Per bbl. C/L lots incl. $1.00 per bbl. for bags, cash. dis. not deducted: Cloth	Paper	Bulk	SAND AND GRAVEL Per ton, carload lots: Gravel, 1½ in.	Gravel, ¾ in.	Sand	CRUSHED STONE Per ton, carload lots: 1½ in.	¾ in.	CRUSHED SLAG Per ton, carload lots, f.o.b. plant: 1½ in.	¾ in.	CONCRETE BLOCK del.; per block: 8x8x16-in.; Sand grav.	truckload Lt.wgt.Agg.	CONCRETE Ready Mixed 1:2:4, over 50 c.y., del.: 50 c.y.
Atlanta	$4.11	$3.36	$3.05	$2.00	$2.00	$1.75	$2.10	$2.10	$1.65	$1.85	$0.1725	$0.1725	$11.00
Baltimore	4.12	3.37	3.06	2.30*ff*	2.30*ff*	1.95*ff*	2.60*ff*	2.70*ff*	2.45*ff*	2.45*ff*	.16	.16*w*	9.85
Birmingham	3.80	3.05	.....	2.06	2.06	1.66	2.50	2.50	1.00	1.20	.165	.165	7.75
Boston	4.50	3.75	3.46	2.50*t*	2.50*t*	2.50*t*	1.50*t*	1.60*t*	.....	.....	.17	.185*w*	10.50*m*
Chicago	3.61 3.67	2.86 2.92	2.56 2.62	2.75‡*d*	2.75‡*d*	3.20‡*d*	2.75‡*d*	2.75‡*d*	2.00‡	2.00‡	.20	.20*x*	.....
Cincinnati	4.00	3.25	2.94	1.85‡*pp*	1.85‡*pp*	1.75‡*pp*	2.95‡*bb*	2.95‡*bb*	2.30	2.30	.19	.195	10.60*kk*
Cleveland	3.92	3.17	2.82	1.90*hg*	1.65*hg*	1.55*ll*	3.55‡*h*	3.55‡*h*	2.75	2.75	.....	.21	11.80*nn*
Dallas	3.57	2.82	2.52	2.00	2.15	1.75	2.10	2.15	.....	.....	.084*p*	.250	9.30
Denver	.....	3.59	3.29	1.85	2.00	1.15	.....	.....	.....	.....	.20	.23*w*	.....
Detroit	4.03	3.25	2.97	3.25‡	3.25‡	3.00‡	3.00‡	3.00‡	3.00‡	3.00‡	.17	.18*w*	9.60*kk*
Kansas City	.....	.....	.....	2.05	2.05	1.50/1.80*ll*	1.45*q*	1.45*q*	.....	.....	.17*wf*	.215*wg*	10.65*n*
Los Angeles	.....	3.82*b*	3.42*b*	1.92*t*	2.02*t*	1.72*mn*	1.92*t*	1.92*t*	.....	.....	.085*oo*	.....	10.28*mm*
Minneapolis	4.09*dd*	3.34*dd*	3.03*dd*	2.30‡*j*	2.30‡*j*	1.35‡*j*	2.50‡*j*	2.50‡*j*	.....	.....	.21*cco*	.....	10.70*kk*
Montreal	.....	2.39*rq*	2.24*rq*	1.25*bb*	1.75*bb*	.....	1.35*cc*	1.60*cc*	.....	.....	.177*rr*	.1665*crr*	8.95*n*
New Orleans	.....	3.07	2.75	2.32	2.32	1.82	.....	.....	.90	1.15	.23	.....	10.65
New York	4.10	4.30‡	.....	2.00*de*	2.00*de*	1.45*de*	2.25*dr*	2.25*dr*	.....	.....	.18*tt*	.18*ccctt*	9.95*k*
Philadelphia	4.15‡	3.10‡	3.10‡	2.30‡	2.40‡	2.05‡	1.90‡	1.95‡	1.50	1.50	.18 / .22	.....	9.85
Pittsburgh	4.15†	3.38†	3.10†	2.05‡	2.05‡	3.00‡	2.50‡	2.50‡	2.05	2.05	.23*z*	.23*z*	11.50
St. Louis	3.80*s*	3.05*s*	2.75*s*	2.60‡*ah*	2.40‡*ah*	2.00‡	2.40‡*ah*	1.50*r*	1.50*r*	1.70	1.15	.225	.24*qq*	10.40
San Francisco	.....	3.38	2.98	1.84	1.84	1.94	1.94	.....	.....	.....	.....	.....	.25*y*	10.75*n*
Seattle	.....	3.45*mm*	2.95*mm*	2.75‡*od*	2.75‡*od*	2.75‡*o-l*	3.50‡*od*	3.50‡*od*	.....	.....	.22*oo*	.2135	9.75*n*

‡ Delivered. *a* F.o.b. truck at plant. *b* 10c. per bbl. off for payment by 10th of following month. *c* F.o.b. quarry. *d* Per cu. yd. *e* Barge lots alongside docks, Man. *f* F.o.b. truck on job. *g* Pea gravel. *h* Truck Lots. *i* 5% discount for cash. *j* 5 cu. yds. or over, del. Man. *k* 2000 lb. concrete. *m* 50c. off for cash. *n* 25 c.y. or more. *o* 2% off for cash. *p* 5¼ x 8 x 12 in. *q* F.o.b. truck at plant. *r* 10c per bbl. off cash 20 days. *s* Sales tax included. *t* Truck delivery. *u* 10 to 100 c.y. brackets. *v* F.o.b. scow, Hudson River, N. Y. *w* Cinder. *x* Waylite. *y* Haydite. *z* Celocrete. *aa* Aver. haul, 7.9 mi. zone. *bb* Under 5 tons. *cc* 8 x 8 x 18 in., also. *dd* Dealers sell only in LCL. This is price for CL and does not include dealer's commission. *ee* 20c refund for each returnable bag. *ff* LCL. *gg* 10c. refund for each returnable bag. *hh* Truck loads up to 500 c.y. Over 500 c.y. lots, 50c less per yd. *ii* Yard price. *jj* 2500 lb. compression strength. *kk* 20c refund for each returnable bag. *ll* Price at plant, called for. *mm* 10c per bbl. off cash 10 days. *nn* Concrete sand. *oo* 8 x 8 x 12 std. wgt. *pp* 5 tons or more. *qq* Dealer's commission not included. *rr* F.o.b. *ss* Jan. price unstable. Now stabilized at $10.28. * Prices include dealer's commission except where indicated to the contrary. † Prices not stable. § Correction Jan. price also $3.40.

CASH DISCOUNTS CEMENT to Contractors: truck delivery, 2% for cash on 10th of month; on carload deliveries, no trucking, same as dealer cash discount 10c. per bbl. for payment within 15 days of date of invoice. Subject discount 10c. per bbl. 20 days in Montreal

CURRENT MAXIMUM PRICES AT CEMENT MILLS

Charge for bags not included. For cloth bags, add $1.05 per bbl.; 25c refund allowed for each returnable bag; for paper bags add 30c per bbl., not refundable.

	Bulk		Bulk		Bulk		Bulk		Bulk
Richard City, Tenn.	$2.40†	Bullington, Ind	$2.20	Steelton, Minn	$2.40	Muskegon, Mich	$2.40†	Toledo, O	$2.40†
Clinchfield, Ga	2.40†	Independence, Kan	2.30	Leeds, Ala	2.25	Saginaw, Mich	2.35†	Milwaukee, Wis	2.40†
Kingsport, Tenn	2.40†	Hannibal, Mo	2.35	Duluth, Minn	2.40	Wyandotte, Mich	2.30†	Green Bay, Wis	2.40†
West Des Moines, Iowa	2.30†	Northampton, Pa	2.30	Hudson, N. Y.	2.30	Buffalo, N. Y.	2.40†	Ironton, O	2.30
Nazareth, Pa.	2.30†	Universal, Pa	2.30	Alpena, Mich	2.25†	Oswego, N. Y.	2.40†	Montreal City	2.08
Bath, Pa.	2.30†	Waco, Tex(+ 9¢ tax)	2.20	Detroit, Mich	2.40†	Cleveland, O	2.40†		

† *Prices to hold for first quarter of 1949.*

PAVING BRICK, BLOCK, ASPHALT, ROAD OILS — F. O. B. CITY

	PAVING BRICK AND BLOCK: Granite per M lots of 50,000 4x4x8 in.	Brick per M 3x4x8½ in. carload lots	Wood per sq. yd. 3½ in. 16-lb. treat	PAVING ASPHALT Per ton, less than 80 penetration: Tank car	Drums	ASPHALT BINDERS—FLUXES Per gal., 80–300 penetration: Tank car	Drums	CUTBACK ASPHALT Per ton: Tank car	Drums	ROAD OIL Per gal. Tank car	ASPHALT EMULSION (Quick-breaking) Per gal.: Tank car	Drums
Atlanta	$73.00	$35.00	$2.25	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore	150.00‡	52.70‡	.....	$23.00	.....	$ 095	$0.15	$ 095*h*	$ 17*h*	$ 095*ehh*	$ 095	$0.115
Birmingham	.....	32.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boston	.....	.....	.....	24.50*a*	$35.50*a*	.0936*a*	.175*a*	.105*ho*	.195*ho*	.09*o*	103*o*	.195*o*
Chicago	150.00‡*y*	85.00/88.00*e*‡	3.10/4.15*d*‡	22.50*b*	32.00*b*	21.50*bg*	31.00*bg*	.097/.106*hh*	.....	.082/.0845*h*	.1025/.1075*h*	.15/.1675*h*
Cincinnati	.....	.....	.....	24.50*ff*	.....	.1035	.....	.1035*h*	.....	.....	.....	.....
Cleveland	187.00	49.00‡	3.88*u*	30.00	40.00	29.50*y*	39.50*y*	.135*h*	.22*h*	.14	.135	.27
Dallas	*l*	40.00	*l*	23.38	42.17	.0987	.1837	26.15	46.65	.0962	.1037	.....
Denver	.....	43.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Detroit	.....	.....	.....	28.45	35.45	.....	.....	.1188*h*	.....	.....	.....	.1925
Kansas City	.....	40.00*q*	.....	20.45*rr*	.....	.....	.....	.081*hr*	.....	.071*r*	.....	.....
Los Angeles	*l*	.....	*l*	18.10*mf*	33.60*mf*	18.10*gm*	33.60*mw*	19.10*m*	26.10*mw*	17.60*m*	.0825*cc*	.1625*cc*
Minneapolis	.....	.....	2.79*d*	27.00	37.00	23.00*g*	34.00*g*	27.00	37.00	105	.13	23
Montreal	140.00	.....	.....	25.00*k*	34.65*k*	15.70*kp*	19.95*kp*	15.30*kp*	17.30*kp*	14.20*kf*	.174*k*	.215*k*
New Orleans	.....	.....	.....	20.00*a*	.....*s*	20.00*ga*	.....*s*	.095*hadd*	.....*s*	.095	.0975	.16*n*
New York	.....	.....	2.50*d*	29.00	42.69*	28.00*g*	41.89*g**	.1190*h*	.1826*h**	.1140	.1190	.1817*
Philadelphia	150.00	80.00/90.00	4.06	23.00	.....	22.00*g*	.....	.095*h*	.....	.....	.....	.....
Pittsburgh	165.00	42.00	4.50	26.00	39.00	.12	.24	27.00	40.00	.095	.10	.21
St. Louis	.....	.....	.....	21.40	.....	.....	.....	.....	.....	.....	.1025	.1795
San Francisco	.....	57.75*c*	.....	18.10*ea*	32.60*eee*	18.10*eeff*	.....	20.10*ee*	.....	.....	.0775	.1475
Seattle	.....	.....	.....	18.10*b*	37.35*a*	17.60*bg*	.....	20.10*b*	24.10*mm*	18.60*bs*	.0775*a*	.0925

‡ Delivered. *a* F.o.b. Baton Rouge. *b* F.o.b. refinery. *c* 2½ x 8½ x 4 in. *d* 2-in. interior block, 6-lb. treatment. *e* 3½ x 4 x 8½. *f* 40–80 penetration. *g* Per ton. *h* Per gallon. *i* F.o.b. Martinez. *j* Shipped in drums, per drum. *k* Tax included. *l* Not used. *m* F.o.b. refinery, El Segundo. *n* 55 gal. drums. *o* Price at plant, in Everett. *p* Per 100 gal. *q* F.o.b. Buffalo. *r* F.o.b. Sugar Creek, Mo. *s* Drums not available. *t* Truck deliveries in Greater Cleveland. *u* 3-in. *v* Bulk, refinery. *w* Shipped in steel barrels, no longer in double head wood barrels. *x* Truck deliveries in Detroit $25.00. *y* Carload lots. *z* In customer's drums. *aa* F.o.b. refinery, Inglewood. *bb* Medium curing. Rapid curing, $.0925, slow curing, $.0925. *cc* F.o.b. Richmond. *dd* 50–300 penetration. *ee* Less than 100 penetration. *ff* Asphalt. * Use of reconditioned drums.

IRON AND STEEL PRODUCTS—PER 100 LBS. BASE MILL PRICES

	STRUCT. SHAPES–PLATE	REINF. BARS[ab] billet	RIVETS ½-in. structural	SHEET PILING Base	STEEL RAILS Per Net Ton: Standard[c]	Light[cf]	Re-rolled	TRACK SUPPLIES: Angle Bars	Std Spikes	Tie Plates[g]	Track Bolts[d]
Birmingham Area	$3.25	$3.35	$6.75	....	$64.00	$71.00	Not	$4.25	$5.35	$4.05	....
Chicago Area	3.25	3.35	6.75	$4.05	64.00	71.00	avail-	4.25	5.35	4.05	....
Pittsburgh Area	3.25	3.35	6.75	4.05	64.00	71.00	able	4.25	5.25	4.05	....
Buffalo Area	3.30	3.35	6.75	4.05	64.00	71.00	....	4.25	5.35	4.05	$8.50
Cleveland	....	....	6.75	...	....	....	....	...	....	....	8.50
Youngstown Area	....	3.35	....	....	.....	.....	....	...	5.35	...	....
Geneva	3.25	....	....	....	....	....	...	....	....	....	....
Los Angeles	....	4.10	....	....	....	....	....	....	5.35	....	....
Pueblo	3.25	3.35	....	....	64.00	71.00	....	4.25	5.35	4.05	8.50

a Fabricated: To consumers: $4.25; except $5.00 Seattle, Wash. *b* Rail steel price $4.05, Williamsport, Pa. *c* Rail steel $102 per ton Williamsport, Pa. *d* Treated. Untreated $8.25. *e* Except $70.00 Indiana Harbor, Ind. and Minnequa, Colo. *f* Except $85.00 Minnequa, Colo. burg, Calif.; $4.50 Seattle, Wash. *g* Except $4.20 Pittsburg, Calif.; $4.50 Seattle, Wash.

IRON AND STEEL PRODUCTS—F. O. B. WAREHOUSE, PER 100 LBS., BASE PRICE

	STRUCTURAL SHAPES[a] Per 100 lb base price	REINFORCING BARS,[a] Per 100 lb., base price[a]: 5 tons to carload lot[b] New billet	Rail steel	Add'l $ cwt. for switch	EXPANDED METAL LATH[k] Per 100 s.y., carload lots: Del.	Std. diamond mesh, 3.4 lb.	Std. ribbed 3.4 lb.	WELDED FABRIC REINFORCING[d] Per 100 sq. ft., carload lots: 4x16 in., No. 5 & 10 wires	4x12 in., No. 8 & 12 wires	6x6 in., No. 6 & 6 wires
Atlanta	$4.75	$5.225[h]	$5.225[h]	$.025	$.10	$31.50	$31.50			
Baltimore	5.51	4.47[l]			.10	40.00	43.00			
Birmingham	5.15	5.15	5.50	.05	.15	43.00[p]	45.50[p]			
Boston	5.57[h]	5.46[h]	5.34[h]	....	.10/.15	31.00	33.00			
Chicago	5.05	4.70[ff]	4.70[ff]	.05	....	31.00‡	33.00‡			
Cincinnati	5.60‡[r]	5.55[r]	....	....	....	33.00[zee]	35.00[zee]			
Cleveland	5.60[hh]	4.37[r]	....	....	.10	34.50	36.50			
Dallas	6.30	6.25	6.25	....	....	33.75	35.75			
Denver	6.30	6.45[e]	....	....	....	43.00[s]	50.00[gs]			
Detroit	5.35	....	....	....	.10	33.50[r]	41.00[q]			
Kansas City	6.00	5.10[d]	5.10	....	....	37.50	39.50			
Los Angeles	5.75[f]	6.15[hh]	....	....	.15	41.00[f]	45.00[hh]			
Minneapolis	5.20[e]	5.20[ll]	5.20[ll]	....	.15	34.50	36.50			
Montreal	5.25[i]	4.70[n]	4.70[n]	....	....	44.10[h]	46.80[h]			
New Orleans	....	5.00[hh]	....	.05	.10	32.00	32.00			
New York	5.71[r]	6.00	6.25	....	.15/.20	34.50[t]	36.50[t]			
Philadelphia	5.04	5.15	....	....	....	30.00‡	32.00‡			
Pittsburgh	4.40/4.50	4.40/4.50	4.40/4.50	.05	.10	32.50	34.50			
St. Louis	5.42[h]	5.28[e]	5.28[e]	....	....	42.00[hh]	48.00[hh]			
San Francisco	5.90[ii]	5.65	....	....	....	36.50	38.50			
Seattle	4.30[e]	5.25[ll]	....	....	....	52.00[s]	42.00[s]			

Fab'g. Mill: Joliet, Illinois; Donora, Penn., $2.36; Monessen, Penn., $2.40

Fab'g. Mill: Joliet, Illinois; Donora, Penn., $1.63; Monessen, Penn., $1.66

Fab'g. Mill: Joliet, Illinois; Donora, Penn., $2.47; Monessen, Penn., $2.52

‡ Delivered. *a* Mill prices. *b* 1–5 tons, add 35c. Less than 1 ton, add 50c. *c* 20 tons or over base. *d* Mill price plus freight. *e* F.o.b. plant. *f* Includes delivery in free delivery zone. *g* High scrap steel prices cut former 15c. differences between new billet and rail steel. *h* List price. Dominion tax exempt. Provincial and Municipal tax extra. *i* Plus Dominion, Provincial and Municipal sales tax. *j* Price per ton. *k* F.o.b. city. *l* Intermediate and hard grade, new billet. *m* Per sq. yd. *n* 5 to 15 tons base. *p* Del. of 5000 sq. yd. or less. *q* Std. ribbed, 4 lb. per sq. yd. *r* 5 tons or over. *s* L.C.L. *t* Asphalt coated. *u* Note: Revised size extra ¼ in., 1¼ in., 1½ in. 10c, ⅜ in., ⅞ in. 15c, ½ in. 20c, ⅝ in. 35c, ¾ in. 55c, ⅞ in. $1.30. *v* Copper bearing. *x* 2.5 lb. per sq. yd. *y* $.0083 transportation tax included. *z* Copper alloy. *aa* Delivered truck to job. Contractor to do unloading. *bb* Includes 55c extra for ⅞ in. size. *cc* Up to 14,999 lbs. *dd* F.o.b. dock. *ee* F.o.b. cars. *ff* Carload lots. *gg* Including sales tax. *hh* Delivered price is $5.60. *ii* Rolled at Geneva mill. Shapes rolled at Fontana, $6.90. *kk* 2" ribbed. *ll* 5 to 8 tons.

PLUMBING, HEATING, WATER, SEWER AND DRAIN PIPE

	C. I. PIPE Per net ton f.o.b. 6 in. to 24 in.[a]	VITRIFIED SEWER PIPE Per foot, Delivered, ASTM C13–44T: std. 8 in. s.s.[c]	std. 12 in. s.s.[c]	24 in.	36 in.	CLAY DRAIN TILE ASTM C4–24 Per 1,000 ft., carload lots, f.o.b.: 6 in.	8 in.	CONCRETE SEWER PIPE Per ft., delivered; ASTMC 14–41: 12 in.	24 in.	*WROUGHT STEEL PIPE (Full standard weight)			
Atlanta	$100.10	$0.43	$0.67	$3.39	$7.00	$114.00	$140.00	$0.45	$2.00				
Baltimore	104.50	.495	.945	3.45	11.00	147.00	228.00	.80	2.25				
Birmingham	93.50	.40	.72	2.84	....	210.00‡	375.00‡	.90	2.50				
Boston	107.90	.441[uvx]	.850[uvx]	3.87[uvy]	10.36[uvy]	173.40	267.60	1.45‡[mj]	3.60‡[mj]				
Chicago	106.70	.59	1.14	4.81	13.45	150.00‡	270.00‡	.70	2.35				
Cincinnati	105.20	.441	.850[x]	3.51	9.53	154.80‡	241.20‡	.60	2.25				
Cleveland	107.30	.357[x]	.688[5x]	3.015[x]	8.405[x]	147.50	231.00	.65	2.50				
Dallas	109.08	.375	.684	2.72	6.25	.....	.....	.48	1.55				
Denver	113.92	.414[dd]	.714[dd]	2.98[dd]	....	.....	.....	.74[dd]	2.50[dd]				
Detroit	107.30	.553	1.10	4.20	12.75	195.00‡[m]	303.00‡[m]	.65	2.50				
Kansas City	108.42	.418[m]	.76[m]	3.00[m]	....	121.00[m]	418.00[m]	.60[l]	2.00[l]				
Los Angeles	120.30	.426	.927	4.532	11.298	193.00‡	324.00‡	.72	...				
Minneapolis	110.30	.62[mo]	1.12[mo]	4.35[mo]	.....	.....	.....	1.29A	3.67A				
Montreal	90.00	.73[s]	1.28[s]	4.20[z]	6.80[cc]	.60[p]	.48[p]	72.00[jkaa]	218.00[jkbb]				
New Orleans	103.10	.412	.762	3.955	9.15	231.00[bb]	405.00[bb]	.35	1.95				
New York	103.50/108.40	.62	1.14	4.45	12.30	.....	.....	1.00	2.25				
Philadelphia	101.30	.54	.99	4.08	10.28	235.00‡	300.00‡	1.25A	3.20A				
Pittsburgh	107.82	.364[m]	.702[m]	2.70[m]	6.625[m]	134.20	197.40	1.05A	2.50[g]				
St. Louis	104.60	.48	.87	3.42	8.05	.....	.....	1.10[il]	2.25A[l]				
San Francisco	120.30	.50[d]	.99[d]	3.96[d]	9.90[d]	188.00[dl]	313.00[dl]	.69	2.85				
Seattle	122.10	.51[b]	.91[b]	....	....	150.00[e]	.....	.80	2.40				

Mill	Butt Weld, Galv.	Lap Weld, Galv.	Butt Weld, Black	Lap Weld, Black
	⅛ in. to 6 in.			
Lorain, Ohio		24.5	22.5	20.5
Aliquippa, Pa.	40.5‡			
Sparrows Pt., Md.	42.5			
Benwood, W. Va.		44.5	42.5	
Youngstown, O.	42.5			
Indiana Harbor, Ind.				
Sharon, Pa.	46.5‡			
Wheatland, Pa.	44.5			
Etna, Pa.	42.5			
Torrance, Calif.	12.5	+2.0	+2.0	+2.0

Mill	Butt Weld, Galv.	Lap Weld, Galv.	Butt Weld, Black	Lap Weld, Black
	⅛ in. to 4 in.			
Lorain, Ohio	50.5	32.0	27.0	20.0
Aliquippa, Pa.	49.5	29.0	29.0	20.0
Sparrows Pt., Md.	48.5	27.0	29.0	20.0
Benwood, W. Va.	50.5	32.0	27.0	20.0
Youngstown, O.	50.5	29.0	29.0	20.0
Indiana Harbor, Ind.	49.5	27.0	29.0	20.0
Sharon, Pa.	48.0		27.0	
Wheatland, Pa.	49.5		29.0	
Etna, Pa.	50.5	50.5	29.0	
Torrance, Calif.	19.5	19.5	+2.0	

Mill	Butt Weld, Galv.	Lap Weld, Galv.	Butt Weld, Black	Lap Weld, Black
	2½ in. & 3 in.			
Lorain, Ohio	50.5	32.0	27.0	20.0
Aliquippa, Pa.	49.5	29.0	29.0	20.0
Sparrows Pt., Md.	48.5	27.0	29.0	20.0
Benwood, W. Va.	50.5	32.0	27.0	20.0
Youngstown, O.	50.5	29.0	29.0	20.0
Indiana Harbor, Ind.	49.5	27.0	29.0	20.0
Sharon, Pa.	48.0		27.0	
Wheatland, Pa.	49.5		29.0	
Etna, Pa.	50.5	50.5	29.0	
Torrance, Calif.	19.5	19.5	+2.0	

‡ Delivered. † F.o.b. *a* B. & S. class B and heavier, CL. Burlington, N. J. (base) $98.50. Based on existing freight rates; subject to rate change. Gas pipe and class A, $5 per ton additional. 4 in., $5 per ton additional. 30 in. and larger, usually $1 per ton less. *b* Extra strength ASTM C 200–41T. *c* 4-in., $90. *d* 8836-A. *e* 30 in. *g* Culvert pipe. Reinforced, ASTM C76–41. *h* Reinforced, ASTM C75–41. *i* Reinforced, ASTM C76–37. *j* Centrispun. *k* Per 100 ft. *l* F.o.b. plant. *m* Truck delivery. *o* Listed price is based on LCL (no minimum). *p* Less than 5 ton loads, price per ft. *r* Within switching limits. *u* ASTM C13–40. *x* F.o.b. city. *z* 2 ft. lengths. *y* 3 ft. lengths. *z* CESA A 60–1941 specifications used. *aa* No standard specifications in Can. *bb* Freight allowed to destination in city. *cc* Truck loads; f.o.b. plant, Newton. *dd* LCL, delivered, f.o.b. truck.

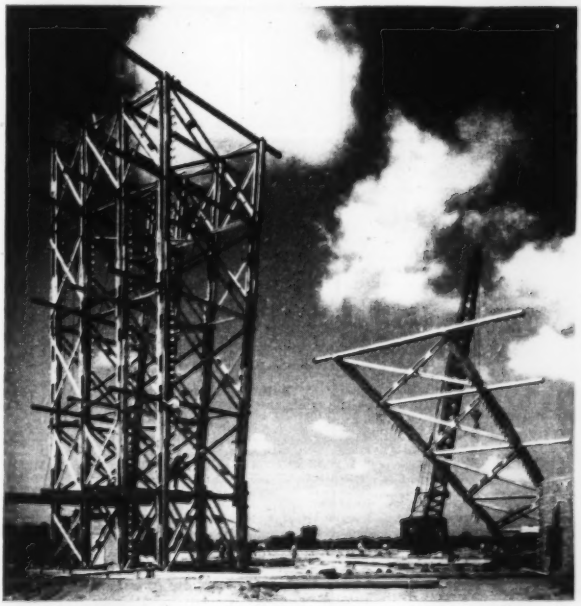
* WROUGHT STEEL PIPE: Discounts from standard list consumers carload prices. Base price approx. $200 per net ton. List prices per ft.: *Butt Weld:* ⅛ in., 5½c; ¼ in., 6c; ⅜ in., 8½c; ½ in., 11½c; ¾ in., 17c; 1 in., 23c; 1¼ in., 27½c; 2 in., 37c; 2½ in., 58½c.; 3 in., 76½c. *Lap weld:* 3½ in., 92c; 4 in., $1.09; 5 in., $1.48; 6 in., $1.92. Freight rates to destination to be added to price, plus 3 percent tax on transportation.

WROUGHT IRON PIPE: List prices per ft. same as wrought steel pipe. Discount for Pittsburgh base. *Butt weld* — 1 in. and 1¼ in. black, +4.5, galv. +32.5; 1½ in. black, 1.5, galv. +29.0; 2 in. black 2, galv. +28.5. *Lap weld* — 2½ in. to 3½ in. black + 5, galv. +32.0; 4½ in. to 8 in. black + 2, galv. +27.5. Freight rates to destination to be added to name delivered price.

SPEED CONSTRUCTION

LOWER COSTS with....

HINES TIMBER FABRICATION SERVICE



Hines engineers, distribution and manufacturing facilities, which go all the way back to harvesting trees in the forest, provide a timber fabrication service that's second to none. Our engineering staff is capable of initiating original designs and when Hines handles the job, timbers arrive at the construction site—sized, shaped, bored, marked and blueprinted so that erection crews can proceed with maximum speed and efficiency.

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Offices in Principal Cities

LUMBER, TIMBER, PLYWOOD—PER M FT., B.M., CARLOAD LOTS F. O. B.

	SHORT LEAF YELLOW PINE AND DOUGLAS FIR—All S. L. Y. P. is No. 2 common or better and for No. 1 N. C. Box. Prices in Bold Face: All Fir planks, No. 2 common, Fir timber as No. 1 common. Lengths up to 20 ft. (Prices in italics)									LONG LEAF Y. P. Merchantable grade up to 20 ft.		PLYWOOD Rail freight increment* (See note for base price)	
	1x6 s4s	1x8 s4s	2x4 s4s	2x6 s4s	2x8 s4s	2x10 s4s	3x12 Rgh	6x12 Rgh	12x12 Rgh	2x12 Rgh	12x12 Rgh	¼"	¾"
Atlanta	$70 00	$71 00	$60 00	$62 00	$65 00	$68 00	$70 00	.....	.....	.....	.....	$22 32	$27 24
Baltimore	90 00	95 00	92 00	95 00	95 00	98 00	115 00	.....	.....	175 00	175 00	22 86	27 90
	120 00	120 00	115 00	115 00	115 00	115 00	125 00	125 00	125 00	.....	.....	.....	.....
Birmingham	83 00	87 50	73 00	75 00	78 00	82 50	95 00	.....	.....	130 00	125 00	21 78	26 58
	80 00	80 00	77 00	77 00	77 00	77 00	93 00	93 00	93 00	.....	.....	.....	.....
Boston	80 00[a]	80 85[a]	85 00[a]	85 00[a]	85 00[a]	90 00[a]	.....	.....	.....	105 00	105 00	22 86	27 90
	90 00	90 00	92 00	80 00	80 00	100 00	100 00	100 00	100 00	.....	.....	.....	.....
Chicago	85 00	90 00	80 00	82 00	84 00	90 00	94 00	.....	.....	117 00	117 00	18 72	22 80
	85 00	88 00	86 00	87 00	88 00	88 00	89 00	93 00	93 00	.....	.....	.....	.....
Cincinnati	100 00	108 00	105 00	105 00	108 00	115 00	115 00	.....	.....	150 00	150 00	21 78	26 58
	125 00	125 00	125 00	125 00	125 00	125 00	125 00	130 135	130 135	.....	.....	.....	.....
Cleveland	80 81	81 84	72 74	80 00	81 83	84 00	93 00	.....	.....	.....	.....	22 20	27 12
Dallas	71 00	71 00	61 00	59 00	61 00	66 00	80 00	.....	.....	72 00	80 00	18 72	22 80
Denver	92 00	92 00	102 00	100 00	100 00	100 00	101 00	117 00	116 00	.....	.....	13 92	16 98
Detroit	78 50	85 00	72 00	81 00	81 00	85 50	.....	.....	.....	.....	.....	21 78	26 58
	82 50	84 00	88 00	86 00	86 00	85 00	.....	.....	.....	.....	.....	.....	.....
Kansas City							.....	.....	.....			16 56	20 16
b	82 50	82 50	89 75	90 25	90 25	90 25	99 00	.....	.....	.....	.....	.....	.....
Los Angeles	79 00	79 00	[g]82 00	82 00	82 00	82 00	88 00	88 00	88 00	.....	.....	13 38[g]h	16 26[g]h
Minneapolis	105 00	105 00	105 00	105 00	105 00	105 00	.....	.....	.....	.....	.....	16 56	20 16
Montreal	73 00	76 00	73 00	73 00	76 00	85 00	.....	.....	.....	.....	.....	.....	.....
	155 00	155 00	155 00	155 00	155 00	155 00	155 00	.....	.....	.....	.....	.....	.....
New Orleans	66 00	70 00	70 00	75 00	75 00	70 00	85 00	87 00	87 00	100 00	105 00	18 72	22 80
	68 70	68 70	71 00	73 00	73 50	72 50	87 00	.....	.....	.....	.....	.....	.....
New York	90 95	95 100	Range from $80 00 to $90 00				100 105	.....	.....	175 200[†]	175 200[†]	22 86	27 90
	.....	.....	Range from $97 50 to $105 00				.....	115 120	115 120	.....	.....	.....	.....
Philadelphia	.....	.....	Range from $90.00 to $100.00				.....	.....	.....	166 00	166 00	22 86	27 90
	.....	.....	Range from $105 00 to $115 00				.....	122 00	122 00	.....	.....	.....	.....
Pittsburgh	85 90	75 90	80 85	80 85	85 90	80 90	110 00	.....	.....	.....	.....	22 56	27 48
	100 120	100 120	100 110	100 110	100 110	100 120	120 130	120 00	120 00	.....	.....	.....	.....
St. Louis	95 00	98 50	87 50[m]	92 50[m]	99 50[n]	107 00[n]	100 00	.....	.....	108 00	135 00	18 72	22 80
	.....	.....	115 00[m]	115 00[m]	115 00[m]	115 00[n]	124 00	135 00	140 50	.....	.....	.....	.....
San Francisco	68 00	68 00	68 00	68 00	68 00	65 00[c]	65 00	65 00	65 00	.....	.....	10 08[g]	12 30[g]
Seattle	62 50[a]	62 50[a]	62 50[a]	62 50[a]	62 50[a]	62 50[a]	62 50[a]	62 50[a]	62 50[a]	.....	.....	.....	.....

Bold Face type, Southern Pine. *Italics, Douglas Fir.* [a] Spruce. [b] Western Pine No. 3 Common. [c] Delivered. [d] Yard prices. [e] Retail prices, less than C.L. [f] 5 M ft. or less. [g] Direct mill prices, f.o.b. purchasers carrier or truck. [h] Tax exempt. [i] Lower rate by water shipment. [j] 50,000 lb. minimum. [k] No. 1 common. [l] Delivered in 5000 ft. lots. [m] These are retail yard prices quoted per truck load in Greater Cleveland. Less 2% for cash. Truck lots. [n] F.o.b. mill. [o] 8 to 12 ft. lengths. [p] 8 to 16 ft. lengths.

Note: Special concrete form grade Fir Plywood, 4' by 8' panels, 5-ply, sanded 2 sides, water resistant glue, carload lots, delivered per 1,000 sq. ft. surface: Seattle base price on ¼", $160.00; on ⅜", $190.00. For other centers add rail freight increment from table on proper size. Oiling and edge sealing charges extra.

† 18 ft. and under. *Freight rate increase of 4c per cwt., effective Jan. 11, not included in these figures.

GLASS, EXPLOSIVES, CHEMICALS

	WINDOW GLASS—Discounts from jobbers list, Jan. 16, 1946a, Single or Double Thickness: A quality	B quality	EXPLOSIVES—Per lb. 40% Ammonia Gelatin in 50 lb. cases delivered in 200 lb. lots*	
Atlanta	76%	76%	$0 2025	
Baltimore	70-10%	71-10%	.2025	
Birmingham	68%	68%	.1575	
Boston	.....	80%[b]	.2025	
Chicago	64%	64%	.2025	
Cincinnati	62-10%[c]	62-10%[c]	.2025	
Cleveland	62-10-10-10%	62-10-10-10%	.2425	
Dallas	65%	65%	.215	
Denver	66%	66%	.2075	
Detroit	62-10-10%	62-10-10%	.2025	
Kansas City	65%[c]	65%[c]	.2075	
Los Angeles	58%	63%[f]	.21	
Minneapolis	64%	64%	.2075	
Montreal	40-5%[bc]	40-10-5%[bc]	18.90[h]	
New Orleans	68%	68%	.2125	
New York	71%	72%	.32[g]	Price of 60% Ammonia Gelatin is $0.0125 per lb. higher than 40%
Philadelphia	69%	70%	.2025	
Pittsburgh	70%	70%	.175	
St. Louis	70-10%	70-10%	.2075	
San Francisco	66%	73%	.2075	
Seattle	54%	55%	.21	

Glass: [a] Jobbers' list price per box, 14 x 20, ss, $20.75 for A quality, $18.00 for B quality; 14 x 20, ds, $30.75 for A quality, $26.00 for B quality. [b] Discount from list, Sept. 1939; sales tax included, but 6% tax exemption not allowable for. [c] Single thickness. [d] Discount from list of Aug. 15, 1938. [f] ss; ds—62%. [g] Double thickness 65%.

Explosives. * Urban prices influenced by service charges or local storage and delivery regulations do not consistently reflect quantity prices in less congested areas. [a] In borough of Kings, Queens, and Richmond and in Manhattan south of Canal St., add delivery charge of $2.00 per trip. [b] F.o.b. city per 100 lb. forcite, 40%. Forcite 60%, $20.65.

40% Ammonia Gelatin price ranges in other than urban areas, per lb. (except Seismograph Grades):

	C. I. 20,000 lb. net	Tons	200 lb. lots
E. of the Miss., except Fla. and Me.	$0 155	$0 1825	$0 2025
W. of Miss. to Rocky Mtn. States, Fla. and Maine	16 1675	1875 20	2075 22
Rocky Mtn. States	16 1725	1875 20	2075 225
Pacific N. W. States	1575 17	19 2025	21 2225
Pacific S. W. States	155 1625	1875 195	2075 2175

PILES, TIES F. O. B.

PILES

Prices per linear foot, fir and pine, bark on, f.o.b. cars, New York. Fir based on Wash. and Ore. points to New York shipping area; pine based on freight from Norfolk.

Dimensions	Points	Length	By Rail—Pine*	By Rail—Fir
12-in. at butt	6-in.	30 to 50-ft.	$0.36	....
12-in. — 2-ft. from butt	6-in.	50 to 59-ft.	.39	....
12-in. — 2-ft. from butt	6-in.	60 to 69-ft.	.43	....
12-in. — 2-ft. from butt	6-in.	90 to 100-ft.	....	.72
13-in. — 3-ft. from butt	5-in.	91 to 100-ft.	....	.73
14-in. — 2-ft. from butt	6-in.	30 to 69-ft.	.43	.80
14-in. — 2-ft. from butt	6-in.	70 to 79-ft.	.47	.74
14-in. — 2-ft. from butt	5-in.	80 to 85-ft.	.50	.75
14-in. — 2-ft. from butt	5-in.	85 to 89-ft.	....	.76
14-in. — 2-ft. from butt	5-in.	90 to 100-ft.	....	.80

* Pine piling over 80-ft. available only in limited quantities.

RAILWAY TIES

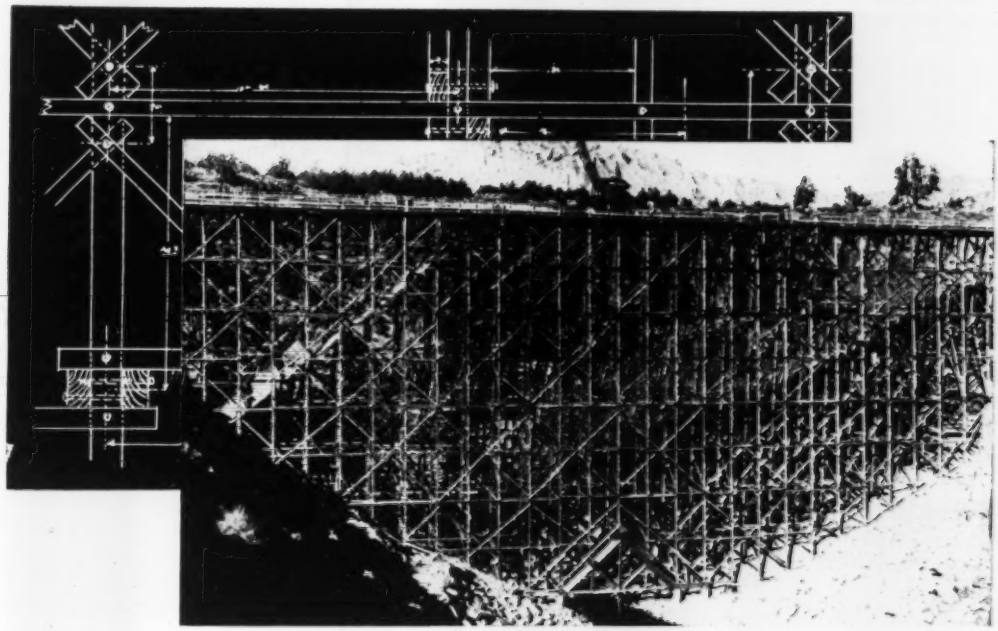
Prices f.o.b. per tie for carload lots:		6"x8"x8' Untr.	6"x8"x8' Tr.	7"x9"x8'6" Untr.	7"x9"x8'6" Tr.
Boston	Oak[a]	.....	.....	.....	.....
	Pine[a]	.....	.....	.....	.....
New York	S. L. Sap Pine	$1.65	$2.85	$2.00	$3.30
	Mixed Oak	1.80	3.05	2.50	3.60
Birmingham	Hardwood	1.00	1.60a	....	2.25a
Chicago	Red Oak	....	2.55/2.60a	....	3.25/3.40a
Los Angeles	Douglas Fir	.....	3.00a	....	.....
	Redwood	1.86	.....	....	.....
Philadelphia	Red Oak	2.33	3.13	3.10	4.25a
St. Louis	White Oak	2.40	.....	3.07	.....
	Red Oak	2.29	2.95a	2.97	3.90a
	Sap Pine or Cypress	3.07a	.....	....	.....
San Francisco	Douglas Fir	1.60c	2.80f	2.10b/f	3.85c/f
Montreal	Birch or Maple	.....	h	.....	h

Tr. — Treated; Untr. — Untreated. [a] Creosoted. [b] 7" x 9" x 8'. [c] Empty cell. [e] Green. [f] F.o.b. cars. [h] No constant price available. [i] Not available.

CHEMICALS

Water, sewage treatment, road work, f.o.b. carlots, New York

Bleaching powder in drums f.o.b. works, per 100 lb.	$4 25
Chlorine cylinders, liquid, per lb. f.o.b. works	.07 .12
Calcium chloride, 77-80%, flaked, 100-lb. paper bag, f.o.b. works, ton	22 00
Silicate of soda, 52 deg., in drums, f.o.b. works, per 100 lb.	1 80
Soda ash, 58%, in paper bags, per 100 lb. dense	1 50
Sulphate of aluminum, commercial, in 100-lb. bags f.o.b. works	1 50
Sulphate of copper, in bags, 99%, per 100 lb. f.o.b. works	8 10



why to specify PENTACHLOROPHENOL (MONSANTO'S SANTOPHEN 20) for wood preservation

TEN GOOD REASONS

1. Penta is toxic to wood-rotting fungi, termites and wood-boring insects.
2. Penta is stable under normal use conditions.
3. Penta does not leach readily.
4. The toxic principle of Penta preservative has a fixed identity.
5. Penta can be determined analytically either in treating solution or in wood.
6. Penta is easily formulated into an effective preservative solution.
7. Penta makes possible a "clean" treatment.
8. Penta-treated wood does not require re-seasoning after treatment.
9. When properly formulated and applied it does not bleed, thus facilitating handling and storage of the treated wood.
10. Penta is economical to use.

Pentachlorophenol (Monsanto's Santophen 20) offers advantages not found in any other wood preservative. It makes possible a clean, lasting treatment for the protection of industry's huge investments in wood.

Santophen: Reg. U. S. Pat. Off.

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CHEMICALS — PLASTICS

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MONSANTO CHEMICAL COMPANY
Desk A, Organic Chemicals Division
1759 South Second Street, St. Louis 4, Missouri

Please send me full information on Santophen 20 for wood preservation. I am particularly interested in protection of

_____
(mention specific types of construction, if you like)

Name _____ Title _____

Company _____

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City _____ State _____

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STRUCTURAL CLAY BUILDING TILE, BRICK AND LIME—DELIVERED

	STRUCTURAL CLAY TILE PARTITION — SCORED			STRUCTURAL CLAY TILE — LOAD BEARING — SCORED			BRICK		LIME		
	Per M. lots of 2,000 pieces or over,			Per M. lots of 2,000 pieces or over,			Per M. in quantity		Per ton, In paper, Carload lot,		
	3x12x12 in.	4x12x12 in.	8x12x12 in.	8x12x12 in.	10x12x12 in.	12x12x12 in.	Common backing	Straight hard	Hydrated finishing	Common hydrated	Pulverized, or lump
Atlanta	.....	.....	.....	.....	.....	.....	$25.00	$25.00	$19.00	$17.50	$17.50
Baltimore	$175.00	$190.00	$350.00	$400.00	.....	.....	32.00*k*	35.00*k*	30.00	20.00	.....
Birmingham	97.50	104.00	195.00	231.00	.....	.....	20.00*ff*	22.50*gg*	24.67	18.10	.....
Boston	145.65†	155.35†	291.30†	330.15†	.....	.....	32.00*a*	35.00*a*	30.80†	26.40†	.....
Chicago	115.00	122.50	230.00	.....	.....	.....	21.00	23.00	27.00	19.50	.....
Cincinnati	170.00*i*	180.00*j*	240.00*kk*	330.00*j*	330.00*j*	330.00*j*	34.00*j*	34.00*y*	22.00*j*	19.70*j*	.....
Cleveland	118.00*cc*	126.00*cc*	236.00*cc*	.....	.....	.....	28.50	28.50	24.00	22.00	27.50*ee*
Dallas	.....	110.00	.....	.....	.....	.....	18.75	33.25	28.00	22.00	.....
Denver	.....	.....	.....	.....	.....	.....	32.00	32.00	34.80*bb*	28.00*bb*	34.00*bb*
Detroit	117.08	124.88	234.15	234.15	$290.68	$332.20	30.00*cc*	31.50*cc*	30.00	28.00	28.90
Kansas City	115.50	122.50	.....	245.00	305.50	367.00	16.00*o*	18.50*o*	36.00*p*	30.00*p*	30.00*p*
Los Angeles	*r*	*r*	*r*	*r*	*r*	*r*	20.00§	.....	.....	36.00	35.00
Minneapolis	152.00*p*	176.00*p*	317.00*p*	176.00*ep*	.....	.....	30.00*ep*	.....	34.50*bb*	25.50*bb*	34.50*bb*
Montreal	110.00*aq*	125.00*aq*	225.00*aq*	.....	.....	.....	25.50	37.00	12.50*ub*	14.00*ub*	.....
New Orleans	160.00	160.00	300.00	.....	.....	.....	29.00	.....	38.00	26.00	37.50
New York	112.20*h*	119.60*h*	164.50*h*	179.40*hn*	.....	.....	33.00	.....	34.40	26.80	.....
Philadelphia	112.10	119.60	224.20	269.10	321.20	405.10	27.00	30.00	29.75	17.50	24.50
Pittsburgh	98.50	105.80	181.85	207.30	265.85	303.60	26.00	38.00*y*	20.45	18.65	2.97*m*
St. Louis	120.00	138.50	252.50	252.50	339.50	.....	32.50*al*	30.50*al*	80*aaap*	60*aaap*	1.00*aaspee*
San Francisco	132.00*a*	148.50*a*	198.00*bla*	148.50*a*	.....	.....	30.00	.....	24.95	24.95	2.49*m*
Seattle	150.00*cc*	160.00*cc*	.....	160.00*ccw*	.....	.....	32.00	29.00	32.00*ahh*	32.00*ahh*	3.60*mhh*

† F.o.b. *a* Smooth. *b* Per 50 lb. bags. *c* 6 x 12 x 12 in. 3-cell. *d* Pulverized hot. *e* 5% discount for cash. *g* 5½ x 8 x 12. *h* F.o.b. trucks, job site N.Y.C. *i* F.o.b. warehouse only. *j* Truck load or over. *k* $1.00 discount. *l* Red face. *m* Per bbl., 180 lb. *n* 7½ x 7½ x 12. Speed tile. *o* F.o.b. Buffalo. *p* Truck lots. *q* Provincial and Municipal tax extra. *r* Not used because of earthquake danger. *s* 2% discount for cash. *t* 5½ x 8 x 11½. *u* Tax exempt. *v* Sand lime. *w* 5 x 8 x 12. *y* Stacked. *z* Pebble lime price per 80 lb. sack. *aa* Price per sack. Lime not sold per ton. *bb* LCL. *cc* Truck delivery. *dd* 6 x 12 x 12. *ee* Pebble lime. *ff* 80% common. *gg* Select. *hh* LCL, § F.o.b. plant.

PAINT, ROOFING—F. O. B. CARLOAD LOTS

	RED LEAD	WHITE LEAD	READY-MIXED PAINT			ROOFING SUPPLIES Carload lots f.o.b. factory				
	Per 100 lb. in 600-lb. (Approx.) bbl.	Per 100 lb. in 100 lb. cases	Per gal., drums			Rolls, slate surfaced, 85–90 lb. per sq.	Asphalt felt, per 100 lb.	Tar felt, per 100 lb.	Asphalt coating per gal.	Tar pitch 360 lb. bbl. per ton
	Dry *a*	In oil *w*	Graphite *b*	Aluminum *c*	Ferric Oxide *d*					
Atlanta	$25.60	$33.125	$1.75	$2.70	$1.65	$2.06‡	$2.06‡	$2.06‡	$1.00‡	$36.00‡
Baltimore	25.35	32.75	2.25	3.50	2.75	2.75	3.30	3.30	.55	36.00
Birmingham	25.60	33.125	4.40	4.82	....	3.05	3.00	3.00	.48	42.00*ee*
Boston	25.35	32.75	....	....	....	....	....	2.75‡*q*	....	34.00
Chicago	25.35	32.75	....	....	....	2.82‡*u*	2.87‡*o*	2.87‡*o*	35.00‡*bb*	38.00‡
Cincinnati	25.35	32.75	....	....	....	2.44‡	2.54‡	2.54‡	35*y*‡	42.00‡
Cleveland	25.35	32.75	3.00	3.00*a*	3.00	2.44	2.54*o*	2.54*o*	.32*y*	38.00
Dallas	25.35	32.75	....	4.05	....	3.50*t*	3.75*t*	4.35*q*	.30	45.00
Denver	25.35	33.25	2.88	4.38	2.63	3.17*o*	3.10*o*	2.54*o*	.41*ff*	48.00
Detroit	25.35	32.75	3.24	2.72	3.60	2.32	2.41	2.41	....	36.00
Kansas City	25.35	32.875	2.40*t*	3.35*t*	....	....	....	....	36*y*	....
Los Angeles	25.60	33.25	2.80	4.00	3.50	2.32	1.77*e*	*l*	.65	*l*.00*ddd*
Minneapolis	25.35	33.13*m*	....	....	....	2.32*dd*‡*	2.41*hidd**	2.41*hidd**	.336*idd**	35.00*ddd*
Montreal	.....	23.65	3.25*p*	4.20*p*	3.62*p*	3.45*t*	3.13*tf*	2.65*tf*	....	2.60*kk*
New York	25.35	32.75	3.45*y*	....	3.45*y*	2.32	2.41*o*	2.41*o*	.34*s*	35.00
Philadelphia	25.35	32.75	3.25	3.65	3.15	2.54	2.94	2.94	.37	26.00
Pittsburgh	25.35	32.75	2.00	2.40	1.90	3.00	3.10*o*	3.10*o*	.37	40.00
St. Louis	25.35	32.75	....	....	....	2.23	2.413*h*	2.413*h*	.36	36.00
San Francisco	25.60	33.00	1.80	2.75*n*	1.35	2.27*x*	3.30*nn*	....	.38*z*	....
Seattle	25.60	33.25	2.95*m*	2.95*m*	....	3.25*mqcc*	3.35*mcc*	....	.49*mcc*	58.38*mcc*

‡ Delivered. Note: Red lead in oil 50c higher than white lead in oil. *a* Red lead prices change frequently due to rag lead price changes. *b* U. S. War Dept. Spec. 3-49A. *c* ASTM Spec. D266-31. *d* 80% minimum ferric oxide. *e* 15 lb. *f* Per 432 sq. ft. *g* 50 gal. drums. *h* Per roll, 65 lb. *i* Net carload lot prices; Minneapolis and vicinity. *j* Asphalt pitch. *k* Per cwt. *l* Not used. *m* 1% discount for cash. *n* May, 1941 price. *o* Per 60-lb. roll. *p* Tax included. *q* Per 90-lb. roll. *r* F.o.b. factory, Chicago. *s* ASTM Spec. D266-41. *t* Federal tax included. *u* Per 90 lb. square. *v* Per ton. *w* Price to large paint contractors is $1.25 less. *x* Mineral surfaced. *y* 55-gallon container. *z* Drums. *aa* Approximate cost per 100 lbs. *bb* Roofers' coating and cement. Price per ton. *cc* LCL, truck delivery. *dd* 2% cash discount. *ee* Asphalt in 100 lb. package. *ff* 5-gal. drums. * Carload list prices quoted in Jan.—not allowing for trade discount.

SKILLED AND COMMON WAGE RATES—PER HOUR

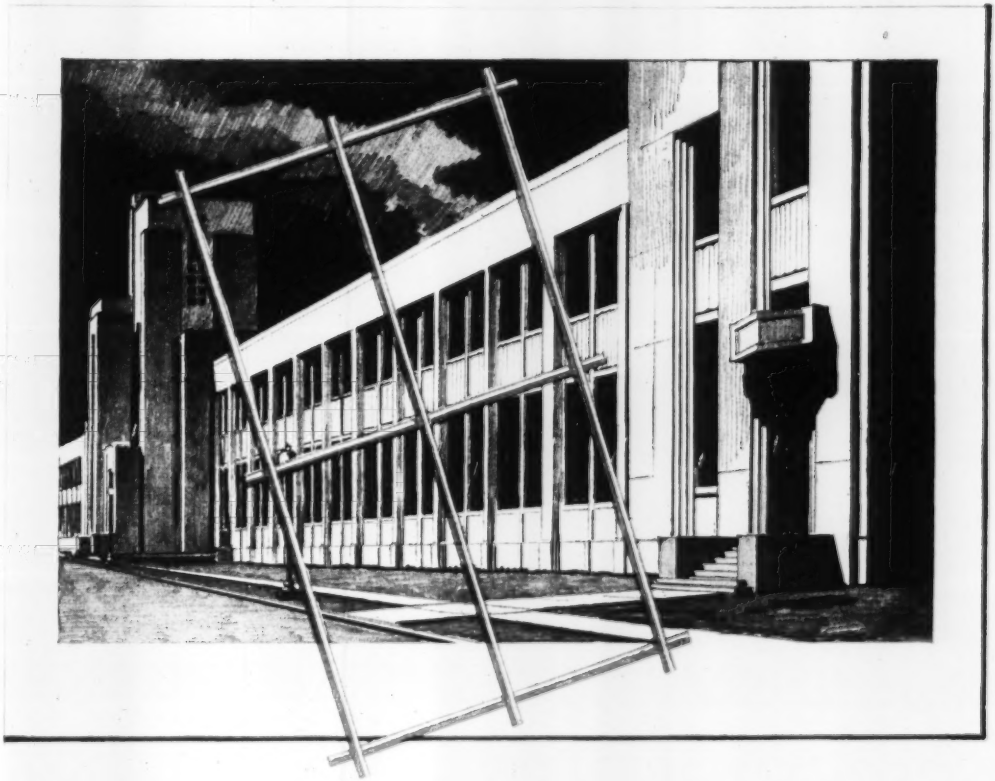
	Brick-layers	Car-penters	Struct. Iron Workers	Hoisting Engineers	Plas-terers	Electrical Workers	Steam-fitters	Common Labor Building	Common Labor Heavy Const.
Atlanta	$2.50	$1.775	$2.00	$2.00	$2.00	$2.00	$2.00	$0.85	$0.95
Baltimore	3.00	2.25	2.40	2.20-2.40	2.25	2.25	2.25	1.25	1.25
Birmingham	2.25	1.80	2.15	1.75	2.20	2.00	2.25	.95	1.05
Boston	2.50	2.10	2.40	2.45	2.50	2.30	2.30	1.55	1.55
Chicago	2.40	2.35	2.40	2.35	2.40	2.35	2.35	1.70	1.70
Cincinnati	2.50	2.20	2.35	2.50	2.375	2.375	2.35	1.46	1.46
Cleveland	2.375	2.325	2.375	2.25	2.375	2.375	2.375	1.725	1.725
Dallas	2.50	2.25	2.25	2.25	2.125	2.00	2.375	1.075	1.275
Denver	2.25*b*	2.10	2.00*b*	2.15*b*	2.25	2.25	2.24	1.40	1.35
Detroit	2.50	2.20	2.40	2.40	2.50	2.40	2.40	1.575	1.575
Kansas City	2.50	2.05	2.20	2.275	2.50	2.30	2.375	1.475	1.40
Los Angeles	2.625	2.0375	2.30	1.9875	3.125	2.40	2.50	1.4875	1.4875
Minneapolis	2.25	2.05	2.175	2.00	2.35	2.21	2.25	1.45	1.45
New Orleans	2.05	1.875	2.00	1.875	1.875	2.00	2.25	.90	.90
New York	3.20*i*	2.75*b*	3.00	3.00	3.20*i*	3.00*i*	2.75*b*	1.70	1.70
Philadelphia	2.75	2.25	2.65	2.50	2.50	2.375	2.50	1.25	1.25
Pittsburgh	3.00	2.50	2.50	2.65	2.625	2.375	2.50	1.50	1.50
St. Louis	2.75	2.45	2.425	2.55	2.50	2.50	2.50	1.50	1.75
San Francisco	2.8125	2.10	2.40	2.125	2.25	2.50	2.375	1.525	1.525
Seattle	2.495	2.195	2.395	2.20	2.495	2.395	2.50	1.795	1.70
Montreal*	1.40	1.25	1.30	1.20	1.40	1.35	1.11	.94	.88

a 6 hr. day. *b* 7 hr. day. * Cost of living bonus now included in basic wage.

MEXICO CITY PRICES

In Pesos, F.o.b. City		Dec. '48	Jan. '49
Common Wages—Building (8 hr. day)	av. per hr.	.57	.57
Common Wages—Heavy Const. (8 hr. day)	av. per hr.	.75	.75
Skilled Labor Wages			
Carpenters (8 hr. day)	av. per hr.	1.25	1.25
Bricklayers (8 hr. day)	av. per hr.	1.25	1.25
Struct. Iron Workers (8 hr. day)	av. per hr.	1.50	1.50
Struct. Steel Shapes			
3"-15" x 12 meters	per ton	1,300.00	1,000.00
Reinf. Steel, Corr. Rods			
⅜" x 12 meters	per ton	1,140.00	1,070.00
½" x 12 meters	per ton	1,080.00	1,040.00
⅝" x 12 meters	per ton	1,056.00	1,050.00
¾" x 12 meters	per ton	1,020.00	1,050.00
⅞" x 12 meters	per ton	1,020.00	1,050.00
1" x 12 meters	per ton	1,020.00	1,050.00
Gravel: truck load of 3½ cu. meters			
Rine Gravel	per tr. load	32.00	35.00
Rose Gravel	per tr. load	30.00	33.00
Cement, Std. Port. (Tolteca)	per ton	115.00	120.00
Lumber			
Mex. Sacred Fir (Oyamel)	per M ft.	350.00	375.00
1st Class Pine	per M ft.	600.00	750.00
2nd Class Pine	per M ft.	360.00	450.00

ENR Skilled Average: (Bricklayers, Carpenters, Ironworkers) $2.353. **ENR Common Average:** $1.417



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SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Every type of concrete construction needs

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UNITED STATES STEEL

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded—First Section

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager — *J. A. MAHONEY, Reports* — *E. R. BIGGERSTAFF, M. R. ROESSLER, Statistics*

WATER SUPPLY

BIDS ASKED

February 17

La., Marrero—Waterworks Dist. 2, Marrero, raw water intake structure and pump station. Plans deposit $15. S. N. Applewhite, 424 Willandon St., New Orleans, engr. CD 6/30/47.

February 21

Ark., Conway—City, laying 3½ mi. 12 in. and approx. 1 mi. 10 in. water pipe. Marion L. Crist & Assoc., Union Life Bldg., Little Rock, engrs.

February 23

†Mont., Fort Peck—U. S. Eng., Fort Peck, raw water line from power house to filtration plant, Fort Peck. Serial No. Eng. 24-016-49-56 Extended date. CD 1/15—ENR 1/20.

March 2

Ky., Warfield—Warfield Water Co., Warfield, WW imprvs. $75,000.

March 15

Minn., Thief River Falls—City, P. G. Pederson, clk., City Hall, water treatment plant. Over $400,000. Plans deposit $10. Lum & Burdick, Grand Forks, N. D., engrs. CD 12/15.

LOW BIDDERS

Md., Baltimore—Mayor & City Council, City Hall, Jan. 26, piping, appurtenances for Liberty Rd., Montebello Tunnel, Montebello Terminal of Liberty Rd., Montebello Tunnel, from The Frank Angelozzi Constr. Co., 123 S. High St., $355,945. CD 1/12—ENR 1/20.

Miss., Magnolia—Town, Town Hall, rejected bids Dec. 7, WW imprvs.

N. C., Shelby—City, H. S. Woodson, mayor, Jan. 21, raw water supply sys. changes and addns., from Glenn Constr. Co., Liberty Life Bldg., Charlotte, $193,400. I. N. Pease & Co., Inc., 119½ E. 5 St., Charlotte, engr.

●O., Akron—Dpt. Pub. Service, M. L. Davis, dir., Municipal Bldg., sewage-pumping rehabilitating main pump station at Lake Rockwell Pump Station, near Kent from Bass Eng. & Constr. Co., 215 Birmingham Theater Bldg., Birmingham, Mich., $1,008,000; installing electrical sys. for pumps and generators, from Uhl Electric Co., 785 S. High St., $193,987. CD 1/17—ENR 1/20.

Tenn., Nashville—City, Jan. 26, 3 mg. steel reservoir from W. F. Holt & Son, 1591 Demonbreun St., $205,900. CD 12/26—ENR 1/6.

Tex., Fort Worth—City, W. O. Jones, mgr., Jan. 25, East Side Pump Station Contr. 2, from McCann Constr. Co., 1802 E. Lancaster St., $55,835. CD 1/18.

CONTRACTS AWARDED

Ala., Florala—City, WW imprvs., to E. N. Murray, Buena Vista, Ga., $93,706. Bids 11/29.

Kan., Holton—City, John A. Pomeroy, clk., water treatment plant, plant addn., to Alldridge Constr. Co., 1604 Nebraska St., Kansas City, Kan., $68,857. Est. $68,551. Bids 1/26. CD 12/24—ENR 1/6.

Pa., Shamokin Dam—Shamokin Dam Water & Sewerage Auth., Fred G. Haddon, secy., Shamokin Dam, water distr. sys., to M. L. Smith, Inc., 140 E. 3 St., Williamsport, $73,294. Bids 1/11, awarded 1/27. CD 1/23—ENR 1/6.

SEWERS, WASTE DISPOSAL

BIDS ASKED

February 21

Ont., Cobourg—J. R. Ewart, City Hall, sewage pumping house, incl. 1,790 lin. ft. connecting sewers, 2,500 lin. ft. 12-in. c. i. force main, Proctor, Redfern & Laughlan, 11 Jordan St., Toronto, engrs.

LOW BIDDERS

Calif., Empire—Empire Sanitary Dist., Yosemite Hy., rejected bids Nov. 30, collection sewer, L. B. $94,716. CD 12/9—ENR 12/16, under LB.

Calif., Los Angeles—City Bd. Harbor Comm., 192 City Hall, Jan. 18, incinerator for miscombustible rubbish, from Godert Incinerator Co., S. Ravenswood St., Chicago, Ill., $217,140. Est. $250,000-$75,000. CD 1/4.

Ill., Chicago—Sanitary Dist. of Chicago, 910 S. Michigan Ave., 38,400 12 in. sq. diffuser plates, 33,600 of 80 permeability and 4,800 of 120 permeability. Div. A, West-Southwest Sewage Treatment Works, Stickney, from The Norton Co. and Carborundum Co., 2335 W. 47 St., $2.80 each. CD 1/21.

Ill., Rockford—Sanitary Dist. of Rockford, 3500 Kishwaukee St., Jan. 17, sanitary sewers in Quadrants 1, 2, 3 and 4, incl. Sects. A, E, J, O and Tunnel Line J, Sect. A, from W. J. Layynski, Inc., 908 E. Center St., Milwaukee, Wis., $392,798. Sects. J and O and Tunnel Line J, from Janisch-Hagerty, Inc., Janesville, Wis., $183,230. CD 12/21—ENR 12/23.

Ky., Richmond—City, City Hall, Jan. 17, sanitary sewer imprvs., from Bush Building Co., 805 S. Ave. N., Nashville, Tenn., $296,516. CD 12/10—ENR 12/16.

Minn., Blackduck—Village, H. Lien, clk., rejected Jan. 10, sewage disposal plant, L. B. $81,922. CD 1/15—ENR 12/30.

Pa., Highspire—Highspire Sewer Auth., c/o Joseph Lewis, chn., Highspire, Jan. 28, sewer lines, sewage treatment plant, from Donald B. Stabler, 635 Lucknow Lane, Harrisburg, $272,125. Est. $250,000. CD 1/10—ENR 1/20.

Tex., Dublin—City, Jan. 25, sanitary sewers, from Southwestern Constr. Co., Neil P. Anderson Bldg., Fort Worth, $68,955. CD 11/15—ENR 12/9.

CONTRACTS AWARDED

Ala., Florala—City, sanitary sewer imprvs., to Carter Constr. Co., Geneva, $109,842. Bids 11/29.

Calif., Bakersfield—Bd. Supervs. Kern Co., McFarland Sanitary Dist., Courthouse, sanitary sewers and treatment plant, to P. & J. Artukovitch, Rebek & Brkich, 5025 E. Slauson St., Los Angeles, $363,939. Awarded 1/24. CD 11/30/45—ENR 12/13/45.

La., Mansfield—City, City Hall, installing sewer exten., outfall line, sewage disposal plant, to Kolin Constr., Inc., Tradesman National Bank Bldg., Oklahoma City, Okla., $223,261. Bids 1/25. CD 1/7—ENR 1/13.

Pa., Shamokin Dam—Shamokin Dam Water & Sewerage Auth., Fred G. Haddon, secy., sanitary sewerage sys. to M. L. Smith, Inc., 140 E. 3 St., Williamsport, $86,635; sewage treatment plant, to Freeman & Basore, 2754 Agate St., Harrisburg, $56,509. Bids 1/11, awarded 1/27. CD 12/23—ENR 1/6.

Tex., Brenham—City, sewage treatment plant, to Wyche & Bryce Constr. Co., P. O. Box 5552, Houston, $66,000. Bids 11/15. CD 11/23—ENR 12/2, under LB.

Wash., Seattle—City, County-City Bldg., Zone 4, 24,148 ft. 8- to 24-in. sewers in Swift Ave. and adjacent streets to S. S. Mullen, Inc., 9 Ave. N. and Roy St., $96,584. Est. $104,165. Bids 1/27. R. W. Finke, city engr.

BRIDGES

BIDS ASKED

February 15

Massachusetts—Commonwealth of Mass., Dpt. Public Works, 100 Nashua St., Boston.

Beverly-Salem—Roadway and sidewalk repairs to Essex Bridge. Plans deposit $5. C. H. Kitfield, ch. engr.

February 16

●New York—Henry A. Cohen, dir. Bureau Contracts & Accounts, The Governor Alfred E. Smith State Office Bldg., Albany.

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $25,000; other public works $50,000; industrial buildings $68,000; other buildings $250,000.

Classes of Construction

(Name in order of Listing)

Water Supply	Latin America
Sewers, Waste Disposal	Public Buildings
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork, Waterways	Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

†	Federal Government
●	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

Bronx Co.—6 bridge substructures, 78 ft., 1,336 ft., 176 ft., 388 ft., 441 ft., and 469 ft., grading and structures 0.39 mi. Cross Bronx Expressway, Contr. SA (Longfellow Ave.—Harrod Ave.) Proj. No. U1084 (2) Contr. No. FA CBE 49-2. $3,345,000. Plans deposit $20. Extended date. CD 1/13—ENR 1/20.

February 17

†Illinois—U. S. Eng., 520 Merchandise Mart, Chicago, Zone 54, Toledo, Peoria & Western Railroad Bridge over New York, Chicago & St. Louis tracks, Farmdale Reservoir, Farm Creek, Serial No. Eng. 11-032-49-60. $100,000-$200,000. CD 12/29—ENR 1/6.

February 18

Minn., Minneapolis—State, Minnesota Hy. Dpt., 1246 University Ave., St. Paul, and City of Minneapolis, H. Erickson, city engr. (1st section) Bridge 6623, grade separation between Cedar and Minnehaha Aves., 22 St., incl. beam span underpass carrying 4 tracks, etc. S. P. 2716-02 (Trunk Hy. 36-114) Minn. Proj. U 383 (6). $400,000. Plans deposit $5. CD 1/3/47—ENR 1/23/47.

February 25

Tex., Dallas—City, Earl Goforth, secy., reinf.-con. underpass on St. George St. $240,000.

Wisconsin and Minnesota—State Hy. Comm., Madison, Wis. and Comr. Hys. State of Minnesota, St. Paul, Minn., at office Wisconsin State Hy. Comm., Madison, Wis., **St. Croix Co., Wis., and Washington Co., Minn.**—Hudson Interstate Bridge and approaches, U. S. Hy. 12. Contr. 1. 0.465 mi. Proj. FI 06-5 (6) and FI 06-5 (7). CD 1/12—ENR 1/20, under LB.

March 9

Louisiana—State Hy. Dpt., Baton Rouge.

Livingston and Tangipahoa Parishes—Natalbany River Bridge and approaches and Natalbany River Bridge, reinforced deck girder, each consisting seven 40 ft. spans, on rein.-con. piling; 1 multiple span rein.-con. box culvert; 2 conc. paving 1.175 mi. Little Baton Rouge-Hammond Hy., State Rt. 7, S. P. 15-07-07 and 15-08-07. F. A. P. F 79 **(4)**

April 6

Louisiana—State Hy. Dpt., Baton Rouge.

Calcasieu Parish—steel, concrete superstructure 1.306 mi. Calcasieu River Bridge, State Rt. 7-2169, S. P. 3-30-03. F. A. P. FI 35 (17), Lake Charles. Plans deposit $17.

LOW BIDDERS

†Arizona-Nevada — Bureau Reclamation, Dpt. Interior, Davis Dam, Nev., Jan. 20, furnishing, erecting structural steel for highway bridge across forebay channel at Davis Dam, Davis Dam Proj., Spec. 2506, from American Bridge Co., First National Bank Bldg., Denver, Colo., $229,876. (Correction—low bidder). CD 1/26—ENR 2/3, under LB.

Louisiana—State Hy. Dpt., Baton Rouge, Jan. 26, one 68 ft. plate girder rolling lift, one 20 ft. truck girder and 5 rein.-con. deck girder span bridges, Cajun Canal Bridge, grading, small drainage structures and c. conc. approaches, at Empire on New Orleans-Ft. Jackson Hy. S. P. No. 62-05-13. F. A. S. P. S-565 (1), Plaquemine Co., Geo. Kelly & Generes Constr. Co., 134 Carondelet St., New Orleans, $382,150. CD 12/23—ENR 12/30.

CONTRACTS AWARDED

Calif., Los Angeles—City Bd. P. Wks., 153 City Hall, reconstructing, repairing, altering North Broadway Viaduct over Los Angeles River, to George W. Peterson, 6314 Santa Monica Blvd., $90,244. Bids 12/1, awarded 1/26.

●Connecticut—State Hy. Dpt. Hartford, superstructure steel erection Housatonic River Bridge, Shelton and Derby, to American Bridge Co., 71 Broadway, New York, N. Y., $1,728,355. Bids 12/8. CD 12/9—ENR 12/16, under LB.

West Virginia—State Road Comm., Charleston, floor, railing, field painting Harpers Ferry Bridge, 1461, ERH 1 (1), Jefferson Co., to M. E. Groves Lime Co., Lime Kiln, Md., $112,820. Bids 1/25. CD 1/17—ENR 1/20.

STREETS AND ROADS

BIDS ASKED

February 18

Ind., Evansville—Bd. P. Wks., O. P. Wentzel, secy., City Hall, resurf. E. Franklin St., Willow to Englewood Aves., c. conc., b. conc., rein.-con., incl., catch basins, inlets, curb and gutter, marginal stone curbing, conc. fdn. $60,000. R. W. Meisinger, city engr. CD 8/22/45—ENR 9/6/45.

February 23

California—State Div. Hys., Sacramento.

Contra Costa Co.—resurf. 1 mi. between Cutting Blvd. and 24 St.

Kern Co.—installing bank protection 0.4 mi. between Ittners and Ricardo. G. T. McCoy, Sacramento, state hy. engr.

(Continued on page 52)

STRONGER! TOUGHER! for MORE YARDAGE-

Firestone TIRES

WHICH tires move the most yardage . . . stay on the job longest . . . with the least downtime? The answer is Firestone.

Off-the-Highway tires were pioneered by Firestone. They have held leadership ever since only because they are built stronger, they are built tougher, they are built to stand up on the job, and save you money.

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FIRESTONE
OFF-THE-HIGHWAY TIRES

Model Illustrated: Standard 3 cu. yd. contractors body with running boards, side braces and half-roll cab protector. Mounted over Marion model 721A hoist.

There's More Pay Load in "On The Job" Design

Extra pounds on every trip . . . faster loading and unloading . . . fewer lay-ups in the repair shop . . . longer service life under the toughest hauling conditions. These extra-profit features are built into every Marion unit by engineers who study special hauling problems right *on the job*. Ask your nearest Marion Distributor about a Marion Body and Hoist designed under the actual working conditions you face. Or write direct.

MARION
DUMP BODIES and HYDRAULIC HOISTS

GET MORE DETAILS NOW
Just mail a post card or letter for the complete Marion catalog, or ask your Marion Distributor.

MARION METAL PRODUCTS CO., MARION, OHIO

"Gunite" ..... the sand-cement product of the "CEMENT GUN," for Concrete and Masonry Repairs, Pre-Stressed Tanks, Steel Encasement and for lining Reservoirs, Sewers and Tunnels.

CEMENT GUN COMPANY
"GUNITE" CONTRACTORS
GENERAL OFFICES—ALLENTOWN, PENNA., U.S.A.
MANUFACTURERS OF THE "CEMENT GUN"

(Continued from page 50)

February 23

Calif., San Francisco—Dpt. P. Wks., City Hall, imprv. Anza St. between Masonic and Parker Sts., Spec. 20,427. Over $50,000. Plans deposit $10. Ralph Wadsworth, City Hall, city engr. CD 2/5/45—ENR 2/22/45.

Louisiana—State Hy. Dpt., Baton Rouge.

Allen Parish—5,586 cu. yd. washed grav. furnished spot-dumped, 714 lin. ft. and 24 in. rein.-con. culvert pipe, Ward 4, S. P. 703-04-82.

Evangeline Parish—750 cu. yd. washed grav. public road, Ward 4, S. P. 703-04-81.

Morehouse Parish—1,700 cu. yd. washed grav. f.o.b. railroad cars, various sidings, S. P. 703-04-85.

Orleans Parish—shell base course, bit hot mix, open graded shell, c. conc. 6 mi. Junction Rt. 2, Pontchartrain Bridge Hy., State Rt. C-1580, S. P. 18-01-06.

Tangipahoa Parish—1,200 cu. yd. washed grav. Ward 5, 140 lin. ft. 34 x 59 in. corrugated metal pipe arch (asph. coated) Ward 5, S. P. 703-04-86.

Terrebonne Parish—4,050 cu. yd. clam shell f.o.b. Parish trucks, various destinations, S. P. 703-04-83.

West Baton Rouge Parish—2,450 cu. yd. washed grav., S. P. 703-04-84.

March 9

Louisiana—State Hy. Dpt., Baton Rouge.

Calcasieu Parish—wid'n., c. conc. pavement, bit. mix surf. 6.71 mi. Sulphur-Westlake Hy., State Rt. 2, S. P. 3-04-20, F. A. P. F. 35-(16).

Cameron Parish—soil cmt., or sand clay grav. or shell, b. conc. surf. tr. 3.999 mi. Cameron-Creole Hy., State Rts. 42 and 292, S. P. 193-01-09, F. A. S. P. S 72(1).

LOW BIDDERS

California—State Div. Hys., Sacramento, plant mix surf. existing pavement and on imported base material 2.5 mi. Stony Rd. between McLaughlin Ave. and White Rd., Santa Clara Co., from Leo F. Prazza, 175 South Montgomery St., San Jose, **$72,908.** CD 1/4—ENR 1/13.

Ill., East St. Louis—City, John T. Connors, mayor, City Hall, Main St. at Missouri Ave., Jan. 20, imprv. 18 St., St. Clair to Lynch Aves., from Moore Bros. Constr. Co., 2000 St. Clair Ave., **$84,941.** David Johnston, city engr.

Kentucky—State Hy. Dpt., Frankfurt, Jan. 28, local bank or creek grav. 3.841 mi. Junction City Forkland Rd., S. P. S 104 (1), SP 11-220, Boyle Co., from Hart Constr. Co., 1091 Manchester St., Lexington, **$103,218.** Received no bids Jan. 28, c. conc. 3.308 mi. Moorehead-Owingsville Rd., FI 3(8), SP 103-82, Rowan Co. CD 1/11—ENR 1/13.

Louisiana—State Hy. Dpt., Baton Rouge, Jan. 26, c. conc. 7.458 mi. Clayton-Azucena Hy., State Rt. 3, S. P. 29-01-02 and 29-02-02, F. A. P. F 404 (3), Concordia and Tensas Parishes, from T. L. James & Co. Inc., Ruston, **$339,379.** CD 12/28—ENR 1/6.

Tex., Austin—City, Guiton Morgan, city mgr., approx. 7,000 ft. 54 ft. wide c. conc. with asph. on exten., Lamar Blvd. from McKown & Son, P. O. Box 151, **$250,341.** J. Motheral, city engr. CD 5/14/46—ENR 5/30/46.

Tex., Fort Worth—City, W. O. Jones, mgr., Jan. 25, paving in Bailey Industrial area from General Constr. Co., Alt 1, 7 in. c. conc., **$111,576.** Alt. 2, 6 in. c. conc.—1½ in. hot mix asph., **$116,839.** Est. $132,000. C. M. Thelin, dir. Pub. Wks.

CONTRACTS AWARDED

Ind., Indianapolis—Bd. P. Wks., City Hall, asph. resurf. Morris St., Capitol Ave. to West St., to R. M. Rowen Co., 4504 Park Ave., **$53,072.** Est. $63,226. Bids 1/8, awarded 1/25. CD 11/26—ENR 12/2.

Virginia—State Hy. Dpt., Richmond, 2.27 mi. four lane Ocean View Blvd., Norfolk Co., to W. H. Scott, Franklin, **$527,459.** Bids 1/20, CD 1/23—ENR 1/27, under LR.

West Virginia—State Road Comm., Charleston, traffic bound base Type B, (Rev.), Rackus-Meadow Bridge Rd., 9.582 mi. S 358 (1), Fayette and Summers Counties, to Acme Constr. Co., Beckley, **$191,939;** traffic bound base, Type B (Rev.), 3.21 mi. Herndon-Basin Rd., S 544 (1), Wyoming Co. to David D. Grife, Oceana, Spanishburg, **$71,517.** Bids 1/25, CD 1/17—ENR 1/20.

Ont., Sarnia—Lambton Co., Sarnia, regrading, preparing base for road constr. day labor, $200,000 appropriated, J. C. Monteith, co. engr. CD 7/4—ENR 5/6.

EARTHWORK, WATERWAYS

BIDS ASKED

After February 18

†Illinois—U. S. Engr., 326 U. S. Court House & Custom House, 1114 Market St., St. Louis 1, Mo., levees in Prairie Du Rocher, and vicinity, Item II-A (Cedar Lakes, Prairie Du Rocher and Modoc Drainage and Levee Dists.) Randolph Co., involving 700,000 cu. yd. earthwork, 56 acres seeding and mulching.

February 24

†Idaho—Bureau Reclamation, Dpt. Interior, Boise, drilling test holes, Palisades Proj., 56 to 80 mi. southeast of Idaho Falls, Spec. R1-38.

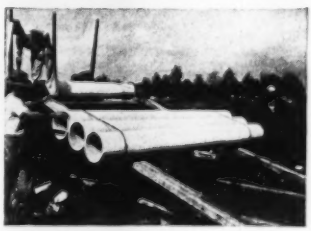
(Continued on page 54)

Engineering Facts about
Johns-Manville TRANSITE PRESSURE PIPE
Installation Economies

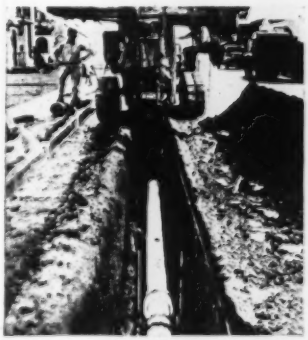
SINCE the cost of installing the transmission and distribution lines may represent as much as 30 per cent of the total original investment in a water supply system, it is important that these costs be kept to a minimum. Transite* Pressure Pipe offers a combination of installation advantages which have resulted in substantial economies wherever this pipe has been used.

These installation economies start when a Transite Pipe shipment is received. Because Transite is relatively light in weight, unloading and all subsequent handling operations are simplified. More footage can be handled per truckload, trucking costs are lower, and distribution on the job site is easier and more quickly accomplished.

Mechanical handling equipment is not usually necessary except where the larger diameters of pipe are used. The sections of pipe are easily lowered into the trench, either by hand or with the aid of rope slings.



All but the larger diameters of Transite Pipe are unloaded without mechanical equipment and lowered into the trench with slings. Lightness, ease of handling and ready workability contribute to Transite Pressure Pipe's many desirable installation advantages.



In this Transite installation at Long Beach, California, the pipe was laid as fast as the trench was opened. Not more than two newly laid lengths of pipe were ever exposed at one time.

Transite's factory-made Simplex Couplings provide a number of additional installation economies.

Consisting of only three simple parts, this coupling is rapidly assembled to provide a tight, yet flexible joint. A coupling puller is the only tool required for assembly. So rapidly can the pipe be assembled in the trench that the same foreman often supervises both excavation and installation. And this speed of assembly means that trenches need be open only a minimum length of time.

Each joint, moreover, is readily checked for correct assembly as the pipe is laid. This provides advance assurance that the line will meet final test requirements and is a further help in expediting completion of the job.

The flexibility of the Transite Simplex Coupling affords another advantage. It permits deflections up to 5° at each joint, thereby allowing the pipe to be laid around wide curves and across hilly terrain without the use of special fittings.

The workability of this pipe is also a contributing factor to its economy of installation. Transite is adapted to standard water works practice and is readily connected to valves, fittings, hydrants, etc. It is tapped and drilled with standard equipment. The threads are sharp, clean and strong—connections are tight and lasting. Conventional methods are used for making large service connections.

For further details about Transite Pressure Pipe, write Johns-Manville, Box 290, New York 16, N. Y.

Assembling Simplex Couplings is a quick operation. And each joint can be easily checked for proper assembly when it is made, providing advance assurance that the line will meet final test requirements.

JOHNS-MANVILLE JM PRODUCTS

*Transite is a Johns-Manville registered Trade Mark

(Continued from page 52)

February 24

Minn., Albert Lea—Freeborn Co., A. C. Hattie, and., Albert Lea, Judicial Ditch 24, incl. 1,104,953 cu. yd. excav., 1,185 trees removed, 1,150 trees cut off, 34 open ditch type floor water inlets, one 30 ft. span highway bridge, 240 lin. ft. 60 in. (C-76) culvert installations, etc. $171,706. C. V. Jones, Albert Lea, engr.

March 1

†Oklahoma—U. S. Eng., Box 61, Tulsa, clearing zones A, B and C of reservoir area and altering fish shelter at Hulah Dam. $340,000. CD 8/31/44—ENR 9/21/44.

On or About March 3

†Nebraska—U. S. Eng., 1709 Jackson St., Omaha, Zone 2. Agricultural Levee Unit R-573, along right bank of Missouri River near Nebraska City, Schedule A, Sect. 1, 280,000 cu. yd. levee embankment, 1,150 tons riprap, 145 acres clearing, grubbing, 45 acres seeding; Schedule B, Sect. 2, 345,000 cu. yd. levee embankment, 158 acres clearing, grubbing, 35 acres seeding; Schedule C, Sect. 3, 288,600 cu. yd. levee embankment, placing 1,220 tons riprap, 430 lin. ft. culvert pipe, 2 outlet structures, 105 bbl. Portland cement, 43 acres clearing, grubbing, 30 acres seeding; Schedule D, combination of Schedules A, B, and C, Spec. No. Eng-25-066-49-179. Plans deposit $10.

LOW BIDDERS

†Arizona-Nevada—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing del. f.o.b. West Allis, Wis., one 20,000 kva. synchronous condenser with control equip. for Tucson substation, Davis Dam Proj., Spec. 2507, from Allis-Chalmers Mfg. Co., Continental Oil Bldg., Denver, Colo., $202,962.

†Georgia and South Carolina—U. S. Eng., Post Office Bldg., Savannah, Ga., addnl. penstock intake gates with guides and seals, Savannah River Basin, Savannah River, Inv. No. ENR-09-133-49-82, from Newport News Shipbuilding & Dry Dock Co., Newport News, Va., $159,129. CD 12/30—ENR 1/6.

†Montana—Bureau Reclamation, Dpt. Interior, Billings, cancelled bids to have been opened Savage Pumping Plant, canal and laterals, Missouri River Basin Proj., Savage Unit, Spec. R6-26 (Region 6). CD 2 1—ENR 2/3.

CONTRACTS AWARDED

†Washington—U. S. Eng., 3735 E. Marginal Way, Seattle, Zone 4, restoring flood control works on Okanogan River, Spec. 45-108-49-87, to Goodfellow Constr. Co. Inc., Wenatchee, $37,896. Est. $38,976. Bids 12/5. CD 12/8.

AIRPORTS AND AIRBASES

BIDS ASKED

February 23

†Va., Chincoteague—GASOLINE DISTRIBUTION SYSTEM, Pub. Wks. office, Headquarters, Fifth Naval District, Bldg. 3, Norfolk, Zone 11, revisions to aviation gasoline distr. sys. at Naval Auxiliary Air Station and Naval Aviation Ordnance Test Station, NOY 17252, Spec. 21317. Plans deposit $10.

March 3

†O., Mansfield—AIRPORT—U. S. Eng., 830 W. Broadway, Louisville 3, Ky., Air National Guard Facilities, Mansfield Municipal Airport, incl. 65x182 ft. warehouse, 198x198 ft. structural steel cinder block; 25x38 ft. cinder block boiler house, 20x20 ft. rein.-con. pump house, water storage reservoir. Plans deposit $15. CD 11/11—ENR 11/25.

LOW BIDDERS

N. J., Atlantic City—AIRPORT—Atlantic City Bd. Comrs., City Hall, Jan. 27, paving, runways, taxiways and new aprons, drains, turfing and fencing, Bader Field Airport, from Union Paving Co., 1227 N. Broad St., Phila., Pa., $265,972. George P. Swinton, city engr.

FOREIGN

Bermuda, Hamilton—Gosling Bros., Ltd., Hamilton, warehouse and bottling plant, to Hutchinson & Milani, P. O. Box 485, Hamilton. Est. $200,000. Onions & Bouchard, Hamilton, archts.

PUBLIC BUILDINGS

BIDS ASKED

February 15

Ont., Port Hope—Mrs. G. R. Strong, 34 Pine St., school, Ward St. for Public School Bd., Port Hope, $250,000. Plans deposit $25. W. G. Brown, 37 Lowther Ave., Toronto, archt.

February 16

La., Bogalusa—M. J. Israel, secy., High School Bldg., 2 story, brick Pleasant Hill School. Plans deposit $25. Wm. R. Burk, 411 Pan American Bldg., New Orleans, engr. CD 3/7/46—ENR 5/20/46.

Minn., St. Peters—State, Dpt. Admin., P. T. Peterson, dir. Purchases, State Capitol, St. Paul, power plant alterations, State Hospital.

February 17

Minn., Moose Lake—State Dpt. Admin., P. T. Peterson, dir. Purchases, 13 State Capitol, St. Paul, power plant alterations at State Hospital. Extended date, Toltz, King & Day, 1509 Pioneer Bldg., St. Paul, engrs. CD 1/3—ENR 1/13.

Tex., Bishop—Bishop Independent School Dist., Bishop, masonry school stadium-gymnasium, $250,000. Bid date changed. Welton Cook, 341 Wilson Bldg., Corpus Christi, archt. CD 1/19—ENR 2/3.

February 18

Ind., Connersville—Bd. School Trustees, E. Huston, chn., 2 story, basmt., brick, rein.-con. steel school, $350,000. W. E. Hanson, Thornburg Bldg., archt. Ammermann, Davis & Stout, 925 Indiana Pythian Bldg., Indianapolis, mech. engrs. CD 8/19—ENR 8/26, under LB.

February 21

Ala., Montgomery—State Bd. Educ., 501 Dexter Ave., dining hall at Alabama State College, incl. refrigeration facilities and equip. Plans deposit $25.

Calif., Alhambra—City School Dist., 601 N. Garfield Ave., 375x100 ft. Martha Baldwin School, Almansor and Los Higos Sts. $600,000. Marsh, Smith & Powell, 816 W. 5 St., Los Angeles, archts. Extended date. CD 1/27—ENR 2/3.

O., Church Hill—Bd. Educ., Liberty Twp. School Dist., Trumbull Co., E. J. Blott, clk., Church Hill, high school addn. Plans deposit $25. Kling & Frost, 661 Wick Ave., Youngstown, archts.

February 23

Calif., Atwater—Mitchell Elementary School Dist., Merced, 12-classroom frame, stucco school. Over $250,000. Plans deposit $20. Frank Wynkoop, Fulton-Fresno Bldg., Fresno, archt.

Ia., Mount Pleasant—City, J. P. Budde, clk., power plant improvs., incl. power piping and station wiring. Black & Veatch, 4706 Broadway, Kansas City, Zone 2, Mo., engrs. CD 9/17—ENR 9/23.

Minn., Anoka—State, Dpt. Admin., P. T. Peterson, dir. Purchases, 13 State Capitol, St. Paul, reconversion mens bldg., Anoka Hospital to tuberculosis hospital. CD 12/29/47—ENR 1/8/47.

●N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 1, general construction, heating and ventilating, electrical and plumbing work for Sedgwick Houses Proj. No. N.Y.C. 14, located in area bounded by proposed Cross-Bronx Expressway on southeast, W. 174 St. on northeast, Undercliff Ave. on northwest, and Southwest Boulevard running along boundary of the proposed park, Bronx Boro. Plans deposit $75. Furnishing, erecting elevators. Plans deposit $25. Total est. $8,000,000. CD 7/1—ENR 7/22.

●†Wash., Seattle—Federal Reserve Bank of San Francisco, Seattle Branch, National Bank of Commerce Bldg., 4 story, steel bank $2,000,000. Naramore, Bain, Brady & Johanson, Dexter Horton Bldg., Zone 1, archts. CD 4/30/47—ENR 5/24/47.

About February 24

Mo., Kennett—Bd. Trustees Dunklin Co. Hospital, Dr. Paul Baldwin, chn., Kennett, brick, concrete, general hospital, $450,000. Plans deposit $40. Ernest T. Friton, 410 Security Bldg., 319 N. 4 St., St. Louis, Zone 2, archt. CD 8/27/46—ENR 9/5/46.

February 24

Calif., Hanford—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con. steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Hayward—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con. steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Healdsburg—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con., steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Modesto—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con., steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Pittsburg—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con., steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Red Bluff—State Div. Architecture, P. Wks. Bldg., Sacramento, 60 x 120 ft., concrete exhibit bldg. with 63 x 85 ft. restaurant bldg. for 30th District Agricultural Assn. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Redwood City—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con., steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Reedley—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con., steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Santa Rosa—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con., steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Sunnyvale—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con., steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., Visalia—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, rein.-con., steel armory. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Conn., Plainville—Town Supt. Schools, 74 East St., brick, steel school addn., incl. gymnasium, auditorium and administration, $250,000. Plans deposit $35. Nawton L. Lockwood, Cooke St., archt. CD 12/6/44—ENR 12/28/44.

Ill., Cairo—Bd. Educ. School Dist. 1, 2 story, 82 x 164 ft., with 40 x 80 ft. wing rein.-con., brick, steel, concrete Junior High School, Pine and Walnut Sts., 2 story, 61 x 131 ft. Washington Junior High School, 18 and Walnut Sts., 2 story 33 x 70 ft. (first floor) 33 x 109 ft. (second floor) Summer High School addn., 22 and Poplar Sts. William B. Ittner, Inc., 408 Bd. Educ. Bldg., 911 Locust St., St. Louis 1, Mo., archt. CD 3/25—ENR 6/13/46.

†Ill., Springfield—U. S. Property & Disbursing Officer, National Guard Bureau, Camp Ellis, 2 motor storage bldgs., Camp Lincoln. Plans deposit $5.

Minn., Benson—Swift County—Benson Hospital Bd., Mrs. C. A. Van Slyke, secy., Benson, county and city hospital, $300,000. Plans deposit $15. L. C. Pihault, St. Cloud, archt. CD 11 7 46—ENR 11/28/46.

Minn., Faribault—State Dpt. Admin., P. T. Peterson, dir. Purchases, 19 State Capitol, St. Paul, tunnel, Faribault Braille and Sight Saving School.

Minn., Faribault—State, Dpt. Admin., P. T. Peterson, dir. Purchases, 19 State Capitol, St. Paul, laundry addn., Faribault School for Feeble Minded. CD 5/16—ENR 5/31/45.

Pa., Torrance—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, boiler plant imprvs. at Torrance State Hospital. $276,000. Plans deposit $5. H. F. Lenz, Johnstown, engr. CD 2 1, under LB.

February 25

Calif., Clovis—Clovis Union High School Dist., Clovis, rein.-con. school auditorium, over $250,000. Plans deposit $20. Frank Wynkoop & Assoc., Fulton-Fresno Bldg., Fresno, archts. CD 2/12/48—ENR 2/26/48.

Minn., Willmar—State, Dpt. Admin., P. T. Peterson, dir. Purchases, 19 State Capitol, St. Paul, receiving hospital, State Hospital.

About March 1

†Alaska, Fort Richardson—U. S. Eng., CAPE 942 C to F. M., Seattle, Wash.; Anchorage, motor pool warm storage bldg., Inv. No. 895-507-49-12. Plans deposit $50. CD 8 13—ENR 9 2.

March 2

†Kan., Wichita—Veterans Admin., Br. Office, 9, Construction Div., Karl M. Eggen, ch., 420 Locust St., St. Louis, 2, Mo., boiler plant, utilities, incl. tool room, fuel oil tank access cabin, to boiler house, one 150 hp. and 2 boiler, steam distr. and water distr. lines, 2,300 ft. 4- to 15- in. c. i. and clay tile pipe, concrete manholes, outfalls, c. conc. roads.

Mo., Cape Girardeau—Southeast Missouri State College, c/o Bd. Regents, Cape Girardeau, and Wm. L. Smith, state purch. agt., 106 State Capitol, Jefferson City, 2 story, 107 x 166 ft., wing 52 x 86 ft., 17 x 76 ft. and 28 x 167 ft. concrete, physical and health bldg. (field house). Plans deposit $25. Wischmeyer & Lacomi, Bd. Educ. Bldg., 911 Locust St., St. Louis, Zone 1, archts. CD 12/23—ENR 1/30.

March 3

†Arizona and Nevada—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing del. f.o.b. cars shipping point or Cash, Tempe, Ariz., one horizontal 10,000 gal. welded-plate-steel oil storage tank, together with 1 addnl. 2 in. oil storage vent valve for Tucson substation, Davis Dam Proj., Spec. 2552. L. N. McClellan, ch. engr.

March 8

†N. H., Manchester—U. S. Eng., Army Base, Boston 10, Mass., boiler house and personnel quarters, Veterans Hospital for Veterans Admin., Vermont Ave., between H and I Sts., N. W., Wash. 25, D. C. Plans deposit $25.

March 17

†Washington—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., one dry type neutral-grounding reactor for use in neutral of 6,900 volt, 3 phase, 60-cycle, 12,500 kva. generator, one indoor type, single throw neutral grounding circuit breaker rated at not less than 15,000 volts for operation in neutral of 6,900 volt, 3 phase, 60 cycle, 12,500 kva. generator for station-service unit LS-3, Grand Coulee Power Plant, Columbia Basin Proj., Spec. 2532.

LOW BIDDERS

Ind., Rushville—Bd. Comrs., Rush Co., M. S. Ball, aud., Court House, Jan. 18, general contract 3 story county memorial hospital, from J. L. Simmons Co., 710 Union Title Bldg., Indianapolis, $469,312. CD 12/14—ENR 12/16.

Minn., Fergus Falls—State Dpt. Admin., P. T. Peterson, dir. Purchases, 13 State Capitol, St. Paul, Jan. 25, general contract unit for new patients, State Hospital. Swanberg Lock Constr. Co., 2838 Stevens Ave., $445,990. CD 1 4—ENR 1/13.

†Mo., St. Louis—U. S. Atomic Energy Comm., New York Operations Office, St. Louis Area, 75 Destrehan St., Zone 16, Jan. 22, 2 and 2 story, 110x232 ft. masonry, steel factory for Plant 8, 65 Destrehan St., incl. 2 railroad sidings, sub station addn., overhead power lines, etc., from Robert Paulus Constr. Co., 2467 Morganford Rd., Zone 16, $368,866. CD 7—ENR 1/13.

N. J., West Orange—School Bd., Pleasantdale School Addn., from Arthur Venner Co., 200 North Ave. E., Winfield, $820,192. Hacker & Hacker, Fort Lee Trust Co. Bldg., Fort Lee, archts. CD 4/16/46—ENR 7/4/46.

(Continued on page 56)

5 Wiring Ideas ...TO BRIGHTEN YOUR PLANS

A specific wiring material for a specific job—that's the new idea in planning for a productive, profitable drafting room. To help you make the right choices every step of the way—we've picked five tailor-made ideas right off your General Electric distributor's shelves. Look them over for real help in your planning job.

1. **UNDERFLOOR WIRING** is the ideal system for this kind of equipment. G-E Fiberduct raceways or Q-Floor Wiring provide for outlets in the floor practically anywhere, any time they're needed. As room arrangement is changed—as desks are moved—as electrical appliances are added—outlets can be moved or added, too, in a matter of minutes. For a drafting room that keeps pace with the times, give it flexibility with G-E Fiberduct or Q-Floor Wiring.

2. **MERCURY SWITCHES** are General Electric's silent switches you've heard so much about. They're made for spots where people constantly flip lights ON and OFF. After years of operation, they keep on doing their job well. A pool of mercury flows from the open to closed position silently—with no apparent friction or wear. G-E mercury switches fit wherever standard switches fit—carry a full 10-ampere rating.

*Trade-mark Reg. U. S. Pat. Off.

3. **TYPE TW WIRE.** Here's another good bet for the installation that's going to stay modern in the years ahead. Small-diameter, long-life General Electric Type TW wire conserves space in conduit—leaves room for additional wiring later on, without additional raceways. This smooth, thermoplastic wire is an installation-timesaver, too, because it pulls through conduit easily—makes cutting and stripping a fast operation.

4. **CONDUIT,** of course, should be General Electric White—the rigid conduit that's hot-dip galvanized to stand up through the years. Wherever installation plans call for long life and low maintenance costs, specify G-E White.

5. **HEAT-RESISTANT** Deltabeston* fixture wires are a "must" in a location like this. Where lamps burn continuously, heat-beating Deltabeston wires are a wise precaution. Make sure they're part of every fixture you buy. And, to make your fluorescent installation complete, specify G-E Watch Dog* starters. They automatically cut out blinking lamps—keep lighting continuous and even.

Why not get the habit of looking to your General Electric distributor for ideas and advice—as well as for wiring materials? He has a full line of materials to choose from—and a wide range of experience he'll gladly share with you. Contact him for information—or write to Section K14-232, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

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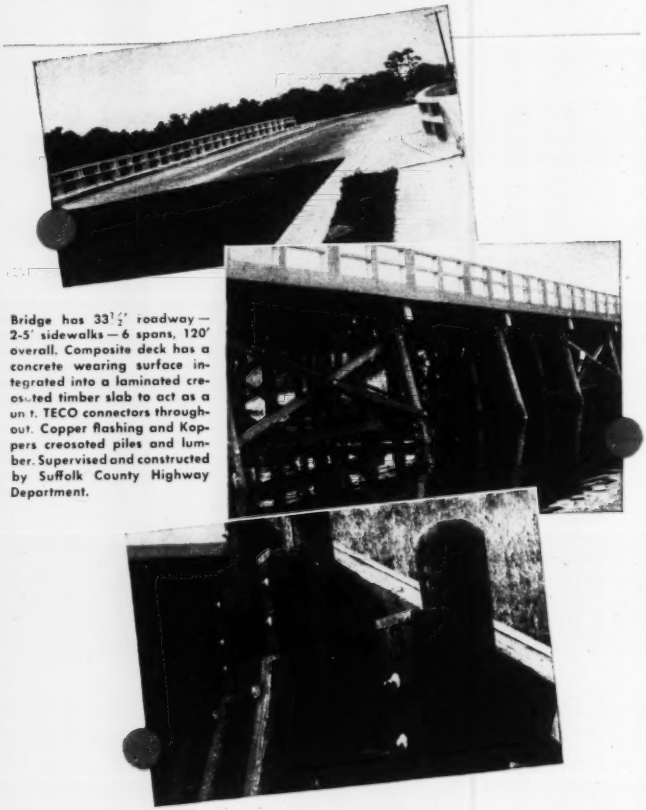

Bridge has 33½' roadway—2-5' sidewalks—6 spans, 120' overall. Composite deck has a concrete wearing surface integrated into a laminated creosoted timber slab to act as a unit. TECO connectors throughout. Copper flashing and Koppers creosoted piles and lumber. Supervised and constructed by Suffolk County Highway Department.

● Along with the nation's steadily increasing amount of transportation comes ever-increasing praise for Koppers Pressure-Creosoting.

Its performance on piles, decks, posts, and guard rails has led highway engineers across the nation to report that "Koppers Pressure-Creosoting does the job."

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Yes, *Koppers Pressure-Creosoting does the job*—does it *dependably . . . economically . . . permanently.*

KOPPERS PRESSURE-TREATED WOOD

KOPPERS COMPANY, INC., Pittsburgh 19, Pa.

(Continued from page 54)

N. J., Woodbury—Bd. Educ., Woodbury, Jan. 26, West End Memorial School, from Edward Fay & Son, 244 N. 55 St., Phila., Pa., $250,000. Harold M. Klaisz, 7 N. Maple Ave., archt. Charles H. Wolf, Otis Bldg., Phila., Pa., engr.

N. C., Boone—Appalachian State Teachers College, Boone, Jan. 26, laundry and service bldg., from West Building Co., Pepper Bldg., Winston-Salem, $83,395. CD 12/27—ENR 1/6.

CONTRACTS AWARDED

Calif., Salinas—Salinas School Dist., National Bank Bldg., 14-classroom frame, stucco El Gabalin Jr. High School, to Vern Huck, Box 1388, $278,868. Bids 1/7.

Fla., Coral Gables—University of Miami, Coral Gables, 2 story, 161x169 ft. library, to Gust K. Newberg Constr. Co., 7117 N.W. 5 Court, Miami. Est. over $300,000. Robert Law Weed, Dupont Bldg., archt.

Ia., Oakdale—State Hospital, Oakdale, and State Bd., Des Moines, general contract tuberculosis sanitarium addn. for State Hospital, to Viggo M. Jensen & Co., Albert Lea, Minn., $331,742. Bids 1/21. CD 12/28—ENR 1/13.

Kan., Topeka—Bd. Educ., general contract Oakland School, to Bowers Constr. Co., 627 College St., $260,860. Bids 1/17. CD 1/4.

Neb., Falls City—City, power bldg. alterations, addnl. generating equip., to Fairbanks-Morse Co., 902 Harney St., Omaha, $267,343. CD 12 14—ENR 12/16.

COMMERCIAL BUILDINGS

BIDS ASKED

February 23

N. Y., Albany—Christian Bros. Academy, University Heights, faculty bldg. $300,000. James W. O'Connor & James F. Delaney, 162 E. 37 St., New York, Zone 16, archts. CD 11/9—ENR 11/18.

February 24

Wash., Bellingham—St. Joseph's Hospital, Bellingham, 5 story, rein.-con. hospital addn. $520,000. J. W. Maloney, Central Bldg., Seattle, Zone 4, archt. CD 11/5—ENR 11/18.

Bids Asked

Ark., Crossett—Crossett Health Foundation, Crossett, hospital, William Lescaze, 211 E. 49 St., New York 17, N. Y., archt. CD 9/8/45—ENR 9/13/45.

Ill., Quincy—Quincy College, Quincy, physical educ. bldg. $300,000. Chas. F. Behrensmeyer, W. G. U. Bldg., engr. and archt. CD 3/14/46—ENR 3/28/46.

SOON LETS CONTRACT

Ill., Chicago—Ner Tamid Congregation, 2754 Rosemont St., soon lets contract 2 story, brick, concrete, steel school addn. Friedman, Alschuler & Sincere, 223 W. Jackson St., archts. CD 10/24/26—ENR 11/7/46.

La., Shreveport—Neild & Somdal, archts., Texas Eastern Bldg., soon let contract 2 story basmt. department store, Milam and McNeil Sts., for W. Harry Johnson Estate, Shreveport, $500,000. (**Correction**—No award made) CD 1/20—ENR 1/27, under CA.

Miss., Greenville—Southern Bell Telephone Co., Hurt Bldg., soon lets contract telephone exchange bldg. Over $250,000. Warren, Knight & Davis, Protective Life Bldg., Birmingham, Ala., archts. CD 9/2—ENR 9/16.

Tex., Texas City—Southwestern Bell Telephone Co., 308 S. Akard St., Dallas, soon lets contract telephone bldg. $250,000. Extended date CD 1/25—ENR 1/27.

LOW BIDDERS

Ia., Sioux City—Morningside College, Morningside Ave., Jan. 12, field house, swimming pool, from W. A. Klinger Co., Benson Bldg., $328,187. CD 1/11—ENR 1/13.

Md., Baltimore—Young Mens Christian Addn., 24 W. Franklin St., Jan. 13, 4 story, brick, steel, rein.-con. Y. M. C. A. addn., 1619 Druid Hill Ave., from The Davis Constr. Co., 320 W. 24 St., Zone 18, $444,440. CD 12/23—ENR 1/6.

CONTRACTS AWARDED

Ala., Alabama City—Crescent Amusement Co., c/o contractor, theater, to Daniel Constr. Co., 822 7 Ave. S., Birmingham. Est. $250,000. Bids 1/14. CD 1/4—ENR 1/13.

Ala., Birmingham—Kentucky Garden Apartments Inc., c/o Pembleton & Mims, archts. Title Guarantee Bldg., apartment development, to Jack A. Roberts, c/o archts. Est over $250,000.

Ala., Montgomery—Corey Drive Apartments, c/o contractor, apartment development, to Algernon Blair, First National Bank Bldg. Est. over $300,000.

Del., Claymont—James S. Conly, 700 Philadelphia Pike, residential development, separate contracts. $250,000.

Del., Seaford—Westview Apartments, c/o Helen C. West, Shelbyville, apartment development, to Joseph J. Mitchell, 329 Market St., Camden, N. J., $250,000. Aaron Colish, 117 S. 17 St., Phila., Pa., archt.

Del., Wilmington—Agostino Fortunato & Son, 1337 W. 4 St., residential development, Grant and Seneca Aves., separate contracts. $300,000.

Fla., Ft. Lauderdale—Gill Constr. Co., 105 E. Las Olas Blvd., 39 homes. Owner builds. Over $250,000.

Fla., Miami—Herman Housing, Inc., c/o contractor, 76 apartment units, N.W. 17 Ave., to Interstate Constr. Co., 1337 N. Bayshore Dr. Est. over **$300,000.**

Fla., St. Petersburg—Master Mode Homes, c/o Phillip H. Kennard, archt., First Federal Bldg., apartment development. Owner builds. **$350,000.**

Ind., Indianapolis—Salvation Army, 26 S. Capitol Ave., 3 story, brick state headquarters bldg., Michigan and Alabama Sts., to Wm. P. Jungclaus Co., 823 Massachusetts Ave. Est. **$265,000.** Bids 11/10, awarded 1/26. CD 10/14—ENR 10/21.

La., Covington—St. Paul College, Covington, classroom bldg., to Dye & Mullings, Columbia, Miss., **$253,078.** Bids 1/25. CD 12/31—ENR 1/6.

N. J., Camden—Harry Dinerman, 2311 Baird Blvd., apartment development, Park Blvd. and Magnolia Ave., separate contracts. **$250,000.** Dante D'Anastasio, 2010 Horner Ave., Pennsauken, archt.

N. J., Camden—Dominic DiNunzo, 28 Leonard St., apartment development, Dudley St., separate contracts. **$250,000.** Dante D'Anastasio, 2010 Horner St., Pennsauken, archt.

N. J., Pitman—George & Laurence MacFadden, c/o Dante D'Anastasio, archt., 2310 Horner Ave., Camden, apartment development, separate contracts. **$250,000.**

●**N. Y., Bayside**—Robert Ingrassia & Assoc., c/o Herbert J. Burmeister, archt., 100-39 205 St., Hollis, 89 houses to be known as Lana Homes, on site bounded by Francis Lewis Blvd., 53 and 56 Aves., 204 St. Owner builds. **$1,280,000.**

N. Y., Great Neck—Temple Beth El, Middle Neck Rd., temple addn., to Robert Johnson, Inc., 232 E. 36 St., New York, Zone 16. Approx. **$250,000.** Bids 11/16. CD 11/5—ENR 11/11.

N. Y., New York—Alexanders Department Store, Inc., 2501 Grand Concourse, department store addn., to Mance Constr. Co., 400 W. Broadway, Zone 12. Est. **$400,000.** Bids 11/15. CD 10/29—ENR 11/4.

Tex., Amarillo—West Lawn Homes, Amarillo, housing, own forces. **$350,000.** CD 1/26.

●**Tex., Dallas**—Bailey Johnon Co., Rio Grande Bldg., 301 dwellings, Oak Hill sub-division. Owner builds. **$1,650,000.**

Tex., Dallas—W. C. Boedeker & Assoc., 210 S. Zangs St., apartments off N. W. Hy., own forces. **$600,000.** CD 1/30/48—ENR 2/12/48.

Tex., Dallas—Mr. & Mrs. Jack Falls, Jim Miller and Lake June Rds., housing. Owner builds. **$275,000.** CD 1/26.

Tex., San Antonio—Frank Robertson, Majestic Bldg., 90 dwellings. Owner builds. **$850,000.** CD 1/12—ENR 1/27.

INDUSTRIAL BUILDINGS

BIDS ASKED

February 15

Mo., Springfield—PLANT—M. F. A. Milling Co., 506 Boonville St., brick, steel, concrete plant. **$150,000.** D. R. Sanford & Sons, Woodruff Bldg., archt.

SOON LETS CONTRACT

La., Franklinton—WAREHOUSE, etc.—Washington St. Tammany, Electric Co-operative, Inc., soon lets contract warehouse and office. Biggs, Weir & Chandler, 224 N. Congress St., Jackson, Miss., archts. CD 1/26—ENR 1/27.

LOW BIDDERS

Ill., Chicago—PLANT—Emulsol Corp., 1914 S. Kilbourn St., 2 story, brick, rein.-con. plant, from Carl E. Erickson Co., 4657 N. Ravenswood Ave., Est. **$150,000.** A. Epstein & Sons, 2011 W. Pershing Rd., archts.

Minn., Willmar—WAREHOUSE, etc.—Kandiyohi Co-operative Electric Power Assn., O. N. Gravgaard, pres., Willmar, rejected bids Jan. 26, 1 story, brick, tile warehouse-office. **$100,000.** Will re-advertise. CD 1/4—ENR 1/13.

N. C., Clinton—PLANT Lundy Packing Co., Clinton, rejected bids Jan. 4, packing plant, L.B. **$222,554.** CD 1/11—ENR 1/13, under LB.

Que., St. Johns—PLANT—Bishopric Co. Ltd., St. Johns, 4 story, 50x65 ft. plant addn., from Heraux et Robert Ltd., 1414 Crescent St., Montreal. Approx. **$110,000.** F. Racicot, Coutrecoeur, archt. Brauillet & Carmel, 3605 St. Denis St., Montreal, engr.

CONTRACTS AWARDED

●**California**—POWERHOUSE—Southern California Edison Co., 601 W. 5 St., Los Angeles, hydro-electric power house on San Joaquin River with 84,000 kw. capacity in 2 generating units; 2,100 ft. arch type concrete dam, 228 ft. high, to Bechtel Corp., 220 Montgomery St., San Francisco, and Morrison-Knudsen Co., Crocker First National Bank Bldg., San Francisco. Est. **$19,406,500.**

Fla., Miami—WAREHOUSE, etc.—Seaboard Airline Railway Co., c/o contractor, warehouse and office, to Halsema Bros., 1254 N.W. 74 St., Est. over **$100,000.**

Ill., Chicago—PLANT—Atlantic Brass Works, 2600 W. Addison St., brick, steel plant, own forces. **$600,000.** Bertrand Goldberg, 721 N. Michigan St., archt. CD 6/5/47—ENR 6/12/47.

Ia., Sioux City—IMPLEMENT—G. E. Batcheller, 730 Grand Ave., general contract implement bldg., to Soren Hansen, 2019 W. 5 St., **$66,968.** K. E. Westerlind, 1235 Badgerow Bldg., archt.

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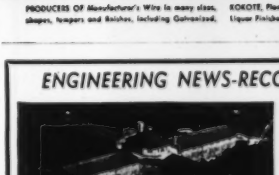

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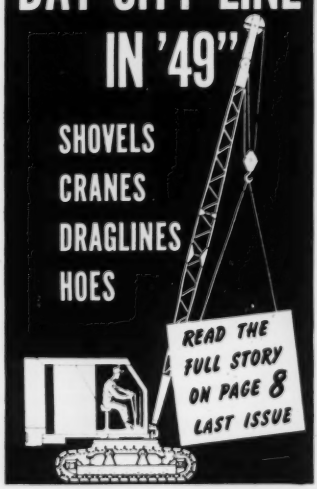

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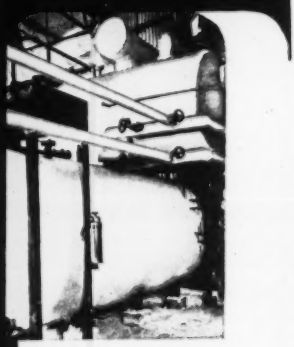

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Mo., St. Louis—STORAGE—Fairview Building Co., 3501 Bent Ave., St. Louis, Zone 16, 1 story, 80x136 ft. and 48x80 ft., steel storage bldg.; concrete fdn.; 3401 Bent Ave., to Elam Contg. Co., 6421 Hampton Ave., Zone 9.

Mo., St. Louis—PLANT—Hadley Bros. Uhl Co., 2952 W. Pine St., Zone 8, 1 story, 70x107 ft., 82x200 ft. and 25x30 ft., brick plant, rein.-con. fdns., to V. & M. Contg. Co., 4030 Chouteau Ave., Zone 10. Est. $100,000. John A. Grunik, 6625 Delmar Blvd., Zone 5, archt.

Ore., Portland—WAREHOUSE—Messal Bag Co., 105 S. E. Hawthorne St., warehouse, to S. P. Lonner, 5330 S. E. Belmont St., $100,000. Ernst Kroner, 314 S. E. 13 St., archt.

S. C. Graniteville—BLEACHERY—Graniteville Mills, Graniteville, bleachery, to Daniel Constr. Co., Greenville. Est. over, $100,000.

Tex., Houston—PLANT—San Jacinto Ammonia Works, c/o San Jacinto Ordnance Dpt., Houston, plant electric contract, for plant proper and outside lighting svs., to Pfeiffer Electric Co., LaPorte, $115,000; constructing railway tracks in ammonia plant and depot zone, to Tellepsen Constr. Co., 3900 Clay St., $190,000.

Tex., San Antonio—LUMBER YARD—A. B. Spencer & Sons, 601 Carolina St., lumber yard, incl. 2 warehouses. Owner builds. Approx. $20,000. Milton A. Ryan, 118 Primera Dr., archt.

B. C., Kootenay Lake (Postal Dist. Nelson)—MINE DEVELOPMENT—Yale Lead & Zinc Mines Ltd., 330 Bay St., Toronto, Ont., diamond drilling and mine development. Owner builds. $160,000. R. W. W. McDougall, c/o owner, engr.

Que., Montreal—PLANT—Le Petit Journal, 1242 St. Denis St., 3 story, 60x100 ft., brick, rein.-con. plant, to R. Hamelin, 354 E. St. Catherine St., $180,000. E. Cormier, 3675 Cote des Neiges Rd., archt. CD 1/15/47—ENR 2/6/47.

Que., Montreal—PLANT—Pilot Steel & Tool Co. Ltd., 706 St. James St., 1 story, 52x87 ft. and 28x52 ft., concrete, steel, brick plant, to L. Donolo, Inc., 85 Jean Talon St. Est. $75,000. Lake, Little & Mace, 1410 Guy St., archts.

UNCLASSIFIED

BIDS ASKED

February 15

La., Moreauville—NATURAL GAS SYSTEM—L. J. Mayeaux, mayor, Moreauville, natural gas transmission line and distr. sys. Plans deposit $15. Porter, Harry & Switzer, 211 Main St., Baton Rouge, engrs. CD 12/15—ENR 12/30.

N. Y., Port Washington—DOCK—Town of North Hempstead, Plandome Rd., Manhasset, dock addn. $150,000. Albert K. Piloff, 200 Maple Ave., Westbury, engr.

February 22

N. B., Cape Tormentine—COMFORT STATION—W. E. Robinson, vice pres.-genl. mgr., Operating Div., Canadian National R. R., Moncton, B. Wheelwright, ch. engr., 360 McGill St., Montreal, Que., comfort station. Over $50,000. Plans deposit $25.

P.E.I., Bordon—COMFORT STATION—W. C. Robinson, vice pres. genl. mgr., Operating Div. Canadian National R. R., Moncton, N. B., B. Wheelwright, ch. engr., 360 McGill St., Montreal, Que., comfort station. Over $50,000. Plans deposit $25.

March 14

Texas—RURAL DISTRIBUTION LINES—Nueces Electric Cooperative, Robstown, 45 mi. rural distr. lines, Nueces Co. $50,000. Southwest Engineers, 1521 Transit Tower, San Antonio, engr.

March 16

Colorado—TRANSMISSION LINE—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, constructing Flatiron-Greeley 115 kilovolt transmission line, Colorado-Big Thompson Proj., Spec. 2551. L. N. McClellan, ch. engr.

Bids Asked

Conn., New Britain—SWIMMING POOL—Boys Club of New Britain, R. C. Neece, chn. Bldg. Comm., E. Main St., swimming pool addn. at Boys Club. $250,000. Loomis Thompson, 34 Warlock St., archt. CD 9/9—ENR 9/23.

LOW BIDDERS

Arizona-Nevada—POWER CIRCUIT BREAKERS, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., power circuit breakers, lightning arresters for Arizona-Nevada 230 kv switchyard, Boulder Canyon Proj., Spec. 2533, from Westinghouse Electric Corp., Gas & Electric Bldg., Denver, Colo., $300,250, f.o.b. Boulder City, Nev. CD 1/12.

California—TRAFFIC SIGNALS—State Div. Hys., 909 State Bldg., Los Angeles, Jan. 27, traffic signals sys. on Santa Ana Parkway between La Verne Ave. and Eastland Ave. East Los Angeles, Los Angeles Co., from Econolite Corp., 3517 W. Washington Blvd., Los Angeles, $26,810. CD 1/14—ENR 1/13.

Calif., Los Angeles—TRANSIT SHED FACILITIES—City Harbor Comn., 102 City Hall, Jan. 19, transit shed facilities at Berths 154 and 155, Spec. 1110, from William Curlett, 829 W. Esther St., Long Beach, $918,169. Est. $750,000. CD 1/4.

Calif., San Francisco—TRAFFIC SIGNAL SYSTEM—Dpt. P. Wks., City Hall, Jan. 26, traffic signal sys. on Bush St. from Market St. to Presidio Ave., Spec. 20,459, from R. Flatland, 1000 Portola Dr., $70,680. Ralph Wadsworth, City Hall, city engr.

Calif., San Francisco—CARHOUSE—Pub. Utilities Comm., City Hall, **Jan. 25**, Potrero Carhouse alterations, Spec. 329, from William Horstmeyer Co., 23 Mars St., San Francisco, **$577,149.**

Calif., San Francisco—TROLLEY SYSTEM—Pub. Utilities Comm., City Hall, Jan. 25, Parnassus Ave. trolley coach lines, Spec. 325, from Severin Electric Co., 249 Natoma St., San Francisco, **$189,800.** CD 1/11.

†Delaware—NIGHT LIGHTING SYSTEM—U. S. Eng., 121 N. Broad St., Phila., Pa., Chesapeake and Delaware Canal, north bank, night lighting sys., St. Georges, Sussex Co., from Arrow Electric Co., 1116 West St., Wilmington, **$79,829.**

†N. Y., Farmingdale—CEMETERY—U. S. Eng., 120 Wall St., New York, Jan. 27, buildings, utilities addn., alterations to Long Island National Cemetery, Pinelawn, from V. B. Constr. Co., Inc., 737 Second Ave., New York, Zone 16, **$185,311.** CD 12 30—ENR 1/6.

Pa., Phila.—SERVICE TUNNEL IMPRVS.—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, Jan. 26, electrical constr. for service tunnel in connection with underground utility lines and service tunnel at Phila. (Byberry) State Hospital, from Electric Power Constr. Co., 3858 Pulaski Ave., Zone 40, **$119,500**, sanitary and storm sewers, from Globe Contg. Co., 609 N. 68 St., Zone 31, **$69,190.** CD 1/11—ENR 1/20.

Texas—RURAL DISTRIBUTION LINES—New Ezta Electric Co-operative, Inc., c/o W. B. Smith, Athens, Jan. 26, 279 mi. rural distr. lines, Van Zandt, Anderson and Henderson Counties, from R. D. Cooper Constr. Co., 1603 Government St., Baton Rouge, La., **$282,279.** Est. $340,000. CD 1/19—ENR 1/27.

Tex., Del Rio, STADIUM, etc.—Del Rio Independent School Dist., Del Rio, Jan. 25, athletic stadium, gymnasium, from J. C. Worcester, 602 American Hospital & Life Bldg., San Antonio, **$161,913.** CD 12 28—ENR 1/13, under Public Buildings.

CONTRACTS AWARDED

●**California and Arizona**—GAS PIPELINE—Pacific Gas & Electric Co., 245 Market St., San Francisco, Calif., 510 mi. gas pipeline from Topock, Ariz. about 15 mi. south of **Needles**, Calif., through the San Joaquin Valley to Milpitas on San Francisco Bay, Calif., to Bechtel Corp., 220 Bush St., San Francisco, Calif.

†Idaho—TRANSFORMERS—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., three 3,333 kva. transformers, one 138,000 volt and one 34,500 volt circuit breakers for interconnecting substation at Minidoka Power Plant, for interconnection with Idaho Power Co., Spec. 2474, to Westinghouse Electric Corp., Gas & Electric Bldg., Denver, Colo., **$111,655,** f.o.b. Acequia. Bids 12 23, awarded 1 27. CD 1 4—ENR 1/13, under LH.

Mississippi — RURAL DISTRIBUTION LINES—Delta Electric Power Assn., Greenwood, 138 mi. rural distr. lines, LeFlore Co., to Southern Electrical Constr. Co., Franklinton, **$163,423.** CD 1/12.

Mo., Clayton (St. Louis, Zone 5, P. O.)—GYMNASIUM—Concordia Theological Seminary, Dr. Louis Sieck, pres., 801 De Mun Ave., Clayton, St. Louis, Zone 5, converting hangar into 147x162 ft. gymnasium, to Wiesmann Constr. Co., 3800 West Pine Blvd., St. Louis, Zone 8. Est. Approx. **$165,000.** Wischmeyer & Lorenz, Rd. Education Bldg., 911 Locust St., St. Louis, Zone 1, archts.

New Jersey—HIGHWAY LIGHTING—State Hy. Dpt., Trenton, Jan. 27, highway lighting, Rt. 25, Sect. 31E, Essex Co., to Lighting Electric Service, 11-13 Coes Pl., Newark, **$126,367.** CD 1/10—ENR 1/20.

New York—POWER EQUIPMENT—Bd. Transportation, 250 Hudson St., New York, Zone 13, furnishing, installing power equip. for Queens Line, Hillside Ave. exten. IND Div. Contr. P-42, Queens Co., to General Electric Co., 1 River Rd., Schenectady, **$635,511.** Bids 11 18. CD 12 2—ENR 12 9, under LH.

●**New York**—TUNNEL PLAZA—Triborough Bridge & Tunnel Auth., 10 State St., New York, Zone 4, Manhattan Plaza of the Brooklyn-Battery Tunnel, to Gull & DePelice, 518 Porter Ave., Brooklyn, Zone 22, **$1,961,235.** Bids 7 12. CD 7/30—ENR 8 5, under LH.

●**N. Y., New York**—SIGNAL and TELEPHONE EQUIP.—Bd. Transportation, 250 Hudson St., Zone 13, installing signal, telephone equip. for rehabilitation Westchester Yard, incl. main line tracks signaling E. 177 St. to Pelham Bay Park, Pelham Line, Bronx Boro, to Watson Flagg Eng. Co., 140 Cedar St., **$1,353,184.** Bids 9 2. CD 9/21—ENR 9/23.

●**N. Y., St. George**—TERMINAL and APPROACHES—Dpt. Marine & Aviation, Pier A, North River, foot of Battery Pl., New York, Zone 4, furnishing, erecting structural steel for reconstructing terminal and approaches at St. George Ferry Terminal, Contr. 2624, to Bethlehem Steel Co., 25 Broadway, New York, Zone 18, **$811,274.** Bids 11/12. CD **11/18**—ENR 11 25, under LH.

●**Texas**—GAS GATHERING LINE—Transcontinental Gas Pipe Line Co., c/o Claude Williams, pres., 107 W. 14 St., Austin, to Fish Engineering Co., M & M Bldg., Houston, design and construction approx. 65 mi. natural gas gathering or lateral line between vicinity of Rio Grande City to near McAllen, **$425,000** est. $500,000; 145 mi. natural gas gathering branch line between McAllen and Odem, **$1,950,000**, est. $2,250,000; 60 mi. natural gas gathering lines in vicinity of McAllen, **$375,000** est. $550,000. Grand total $2,750,000. CD 10/31/47—ENR 11/13/47.

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CONSTRUCTION REPORTS—Second Section

Third Section Construction Reports on page 66

WATER SUPPLY

BIDS ASKED

February 16

Alta., Athabasca—J. P. Evans, Town Hall, water distr. sys., appurtenances, incl., 15,000 lin. ft. 8 in. c. i. bell and spigot watermains, hydrants, and service connections, for Municipality. Plans deposits $15. Ripley & Assoc., 9 Mortlake Block, Edmonton, engrs.

February 17

Mass., Everett—Commonwealth of Mass., W. T. Morrison, comr. Metropolitan Dist., Comn., 20 Somerset Ave., Boston, chlorinating plant, incl., 78 ft. monorail, trolley hoist, sling, storage trestle, platform, 150 sq. yd. b. conc. pavement, 178 ft. chain link fence, 15 ft. gate. Plans deposit $10.

February 18

Miss., Brandon — Town, Town Hall, WW imprvs. Mallett & Assoc., 416½ E. Amite St., Jackson, engrs.

Tex., Waco,—City, c.i. watermains from 30 and Colcord Sts. to elevated tank. $30,000. Plans deposit $15. Joe J. Rady, 811 American Fidelity Bldg., Fort Worth, engr. CD 7/23—ENR 8/5.

February 24

Mass., Boston — Commonwealth of Mass., Metropolitan Dist. Comn., 20 Somerset St., installing hydraulic turbine, generator, motor-operated disc valve, switchgear, sub-station and appurtenances, transmission line at and near Quabbin Aqueduct Outlet Works, West Boylston, Contr. 153. CD 5/12/44—ENR 6/1/44.

February 24

Tex., Lometa—City, City Hall, Trinity Sand water supply well. $15,000-$35,000. J. H. Flood & Co., 707 Amicable Bldg., Waco, engr.

LOW BIDDERS

Pa., Carmichaels—Municipal Auth. of Carmichaels, Jan. 26, Contr. 1, 2½ mi. 8 in. c. i. waterlines from Frank Kukurin & Sons, Wilmerding, **$58,523**; Contr. 2, filtration plant from Latrobe Constr. Co., Box 150, Latrobe, **$111,267**. CD 12/27—ENR 1/6.

Tex., Corpus Christi—City, H. H. Allen, mgr., Jan. 28, 1 m. gal. elevated steel water storage tank, south side of town and 1 m.g. elevated steel water storage tank southwest side of city, from Chicago Bridge & Iron Co., 5625 Clinton Dr., Houston, **$173,000** and **$182,300** respectively Est. $150,000 each. CD 1/8—ENR 1/20.

●Que., Montreal—Municipality, Jan. 29, feed mains, various streets, from Lebeo Constr. Ltd., 3571 Canterbury St. **$170,850**. CD 1/19.

water intake, incl. two 10 ft. pipes, ½ mi. long into middle Lachine Rapids, from Atlas Constr. Ltd., 4781 W. St. Catherine St., **$3,080,300**. CD 2/21/46—ENR 3/7/46.

CONTRACTS AWARDED

Tex., Bellaire—Industrial Homes, Inc., Miles Strickland, pres., 2nd Natl. Bank Bldg., Houston, c.i. waterlines, facilities, on 60 acre plot, day labor. **$30,000**.

Tex., San Antonio—Minot & Minot, Gunter Bldg., 29 acre subdivision utility development, incl. c.i. waterlines, sanitary sewers, streets, off Broadway between Olmos Loop Rd. and Military Hy., for self-account. **$68,000**.

Wis., Milwaukee — City, steam piping for Riverside Pump Station, to Industrial Heating & Engineering Co., 828 N. Broadway, Zone 2, **$28,879**. Bids 1/17. CD 1/2.

SEWERS, WASTE DISPOSAL

BIDS ASKED

February 14

Ont., Etobicoke—S. Eckersley, 4946 W. Dundas St., Islington, storm sewers, for Etobicoke Twp., Islington. Over $50,000 F. MacArthur, Islington, engr.

LOW BIDDERS

Tex., Conroe—City, John L. Griffith, secy., disposal plant, from A. S. Koehler, Shell Bldg., Houston, **$94,550**. Est. $50,000. CD 11/16—ENR 11/18, under LB.

Tex., Corpus Christi—City, H. H. Allen, mgr., Jan. 28, storm sewers, in Louisiana Ave. from Bay to Alameda St. and South to Staples St. from Slovak Bros., 3409 Agnes St., **$228,683**. Est. $50,000. CD 1/18—ENR 1/20.

CONTRACTS AWARDED

Tex., Bellaire — Industrial Homes, Inc., Miles Strickland, pres., 2nd Natl. Bank Bldg., Houston, sanitary sewers, on 60 acre plot, day labor. **$50,000**.

BRIDGES

BIDS ASKED

February 28

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, reconstructing, widening westerly upper roadway on Manhattan Plaza of Manhattan Bridge over East River between Manhattan and Brooklyn Boros. Plans deposit $25. CD 8/20/45—ENR 9/6/45.

LOW BIDDERS

Kansas—State Hy. Dpt., Hays, rejected bids Jan. 21, continuous 3-beam span Bridge 9-74-28.6 Sta. 536 plus 20, Phillips Co. CD 1/7—ENR 1/13.

†Kansas—U. S. Eng., 601 Davidson Bldg., Kansas City, S. Mo., Jan. 11, raising Kansas City Southern Railway Bridge at Kansas City, Kan., Serial No. Eng. 23-028-49-125, from Iowa Bridge Co., 311 Central National Bldg., Des Moines, **$197,491**. Former low bidder withdrawn. CD 1/26—ENR 2/3, under LB.

New Jersey—State Hy. Dpt., Spencer Miller, Jr., comr., Trenton, Feb. 1, overpass, at Plaza Rd. and overpass at Erie R. R. (Berdan Ave.), Route 84B, Sect. 1-a, Fairlawn Boro, FAP No. U-183 (2), Bergen Co., from Ell-Dorer Contg. Co., 644 Nye Ave., Irvington, **$317,802**. CD 12/13—ENR 12/30.

●New York—Bureau Contracts & Accounts, Albany, Feb. 2, 104 ft. plate girder bridge, 0.51 mi. separation of grades, D. L. and W. R. R. Lafayette-Onativia, S. H. 9086 Proj. No. FG-470 (14), Contr. FG RC 49-4, Onondaga Co., from C. D. Murray Co., Inc., 701 Westcott St., Syracuse, **$380,926** est. $415,000 ***demolition, grading, constructing 0.89 mi. Van Wyck Expressway from 36 Ave. southward to 116 Ave., incl. subway structure, 2 grade separation structures carrying Hillside and Jamaica Aves. over Expressway, etc., Queens Co. from Tully & DiNapoli, 3011 12 St., Long Island City, **$1,793,973** est. $1,793,-973. CD 1/13—ENR 1/20.

Oregon—State Hy. Comn., Salem, Jan. 24, 1,200 ft. reinforced steel Sauvies Island Bridge over Willamette slough on Gillihan Rd., FAP S-54 (1), Multnomah Co., from Gilpin Constr. Co., 4850 N. W. Front St., Portland, **$809,441**. R. H. Baldock, c/o owner, engr.

STREETS AND ROADS

BIDS ASKED

February 24

Ill., Chicago—Dpt. Purchases, Contracts, Supplies, City Hall, imprv. W. Randolph St. to W. Lake St., Sect. 1212 L, Wacker Dr. exten., two-level reinforced roadway, etc. Plans deposit $40. CD 4/25—ENR 5/3/45.

LOW BIDDERS

●Maryland—State Hy. Dpt., Baltimore, rejected bids Nov. 23, c. con. 7.62 mi. beginning in Westover and exten. to beginning of concrete road 0.71 mi. southwest of Marion, State (2) 13, S. 15-53 F 501-(1), Somerset Co., L. B. **$1,029,961**. CD 11/30—ENR 12/2, under LB.

New Jersey—State Hy. Dpt., Spencer Miller, Jr., comr., Trenton, Feb. 1, FA-BC-2 surf. 9.38 mi. Bloomfield Ave. from State Hy. Route 6 to point 200 ft. west of Passaic Ave. Caldwell Twp. and West Caldwell Boro., FAP-PAS-S 82 (1), Essex Co., from Franklin Contg. Co., 12 Central Ave., Newark, **$226,810**. CD 1/13—ENR 1/20.

●New York—Bureau Contracts & Accounts, Albany, Feb. 2, c. conc. 2.89 mi. existing road from Route 104 northeasterly toward Texas incl. relocation, grading, drainage and 2 small bridges, Oswego Co., from Gessler Contg. Co., Inc., Burnet and Clark Sts., East Syracuse, **$193,773** est. $197,000***bit. 3.9 mi. County Rd. 22 from Sodom, Route 8, northerly to North Creek on Route 28, incl. grading, drainage, 2 small bridges, and relocation Warren Co., from Frank E. Artolick, Schachticoke, **$268,270** est. $272,000*** bit. under Bridges*** 1.26 mi. bit. macad. 1.26 mi. from Meco westerly toward Clip Hill, Fulton Co., from American Constr. Corp., Amsterdam, **$77,450** est. $83,000***bit. treated gravel, 4.19 mi. highways, leading westerly into Orleans Co. through Clarendon to intersection with the county road which leads northward Albion, etc., Orleans and Monroe Counties, from Cold Spring Constr. Co., Inc., 7 Jackson St., Akron, **$213,303** est $229,000. CD 1/13—ENR 1/20.

Oregon—State Hy. Comn., Salem, Jan. 24, grading, paving 5.74 mi., constructing 4 concrete bridges, 7 concrete box culverts on Tillamook-Pleasant Valley sect. Oregon Coast Hy., FAP F-137 (2), Tillamook Co., from Edwin C. Gerber, Oregon City, **$792,215**. R. H. Baldock, c/o owner, engr.

Oregon—State Hy. Comn., Salem, Jan. 25, 0.89 mi. grading and paving, constructing concrete, steel railroad-highway separation structures, control access on Sandial Sect. of Columbia River Hy. FAP FI-301 (5) and FGI-301 (6), Multnomah Co., from Carl M. Halvorson, Builders Exchange Bldg., Portland, **$526,-132**. R. H. Baldock, c/o owner, engr.

Tex., Houston—City, M. H. Westerman, secy., Jan. 26, 7 mi. asphalt conc.—2 in. hot-mix asph. Buffalo Dr. from Gulf Butulithic Co., 2829 Polk Ave., **$65,224**. Est. $90,000. CD 1/19.

CONTRACTS AWARDED

Ala., Prichard—City, G. V. Dismukes, mayor, paving 13 streets, force account. **$150,000**.

Kansas—State Hy. Dpt., Ellis, grading 6.081 mi. S. P. 40-26 FE 301 (18) Pt. 1, Ellis Co., to Adrian L. Schweitzer, Osborne, **$73,597**.

Kansas—State Hy. Dpt., Independence, c. conc. 11.51 mi. S. P. 169-63 F 604 (3), Montgomery Co., to Ross Constr. Co., Farm Bureau Bldg., Des Moines, Ia., **$554,928**. Bids Jan. 22. CD 1/7—ENR 1/13.

Kansas—State Hy. Dpt., Lyndon, sheet asph. course 9.519 mi. S. P. 30 N-79 F 419 (20), Osage Co., to Kaw Paving Co., Inc., Crane and N. Topeka Ave., Topeka, **$140,145**. Bids 1/13. CD 1/5—ENR 1/13.

Kansas—State Hy. Dpt., Marion, grading, 8.387 mi. S. P. 15-57 FA 574 (2), Marion Co., to Harty Henery, Inc., Ottawa, **$116,894**. Bids 1/19. CD 1/5—ENR 1/13.

Pennsylvania — Pennsylvania Turnpike Comn., Harrisburg, grading, drainage, structures 3.9 mi. Turnpike Sect. 24C, part of Philadelphia Extens. from point approx. 1,300 ft. west of U. S. Route 322, Elizabeth Twp., east to point approx. 150 ft. west of L. R. 36128, Clay Twp., Lancaster Co., to John H. Swanger, Lancaster, **$998,899**. Bids 1/17, awarded 1/28. CD 1/20—ENR 1/27, under LB.

Tex., Bellaire—Industrial Homes, Inc., Miles Strickland, pres., 2nd Natl. Bank Bldg., Houston, asph. and site grading, on 60 acre plot, day labor. **$70,000**.

Tex., El Paso—City, Dan Ponder, mayor, street imprvs., and paving, own forces. **$350,-000**. CD 10/2/47—ENR 10/16/47.

EARTHWORK, WATERWAYS

BIDS ASKED

February 18

†Oregon—U. S. Eng., Pittock Block, Portland, project laboratory and appurtenant utilities in connection with Lookout Point Dam, No. Eng-35-026-49-310, Lane Co.

March 3

†California — U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, Los Angeles County Drainage Area, Los Angeles River Imprvt., Tujunga Wash to Whitsett Ave., River Mile 37.71 to River 38.61, Serial No. Eng-04-353-49-47.

●†Louisiana — U. S. Eng., foot Prytania St., New Orleans, Zone 9, rein.-con. walls, Algiers Lock, Orleans Parish, Serial No. Eng 16-047-49-216. $1,000,000-$2,000,000.

On or About March 4

†Neb., Omaha—U. S. Eng., 1709 Jackson St., Omaha, Zone 2, constructing Florence Boatyard Imprvs., 9600 John J. Pershing Dr., Spec. No. Eng-25-066-49-143.

LOW BIDDERS

†Louisiana — U. S. Eng., foot Prytania St., New Orleans, Zone 9, Jan. 27, 79,500 cu. yd. levee work, 13,500 yd. ditch excav., Grant Parish, Serial No. Eng 16-047-49-206, from A. J. Hanson Co., Pineville, **$28,412**. CD 1/12 —ENR 1/29.

†Maryland—U. S. Eng., 1 and Douglas Sts., N. W., Wash. 25, D. C., Feb. 1, Savage River Dam, Garrett Co., Serial No. Eng. 49-080-<2124C, from Hunkin-Conkey & Shuttee, Gordon & Hinman, Blairsville, Pa., **$862,728**. CD 12/17—ENR 12/30.

●†South Dakota U. S. Eng., 1709 Jackson St., Omaha, Neb., Feb. 3, intake structure on outlet works, Schedule A, Fort Randall Dam, near Lake Andes, Serial No. Eng-25-066.49-162, from Al Johnson Constr. Co., 608 Eyshay Tower, and Winston Bros. Co., 1470 Northwestern Bank Bldg., Minneapolis, Minn., **$11,839,517**. CD 1/15—ENR 1/27.

†Tex., San Benito—International Boundary & Water Comn., Cameron County Bldg., San Benito, Tex., Jan. 29, levee and river bank revetment, Rio Grand River Bank Protection Proj., from Dodds & Wedegartner, 382 N. Bowie St., **$129,701**. CD 1/14/43—ENR. 1/27/43.

CONTRACTS AWARDED

Ind., Vincennes—Chas. Lanahan, drainage contr., Court House, Vincennes, for drainage, Herschel and Tilley Ditches, to Green Constr. Co., Oaktown, **$42,917**. Est. $45,000. Awarded 1/25. Chas. Lenahan, co. engr.

●†Oklahoma—U. S. Eng., Box 61, Gov. Aircraft Plant, 3, Tulsa, spillway outlet works, Arkansas River Watershed, Tenkiller Ferry Dam, Illinois River, Inv. Eng 34-064-49-39, to W. K. McElyar Constr. Co., 8505 Douglas St., Dallas 5, Tex., **$3,597,623**. Bids 1/6. CD 1/11—ENR 1/13, under LB.

†Oregon — Bonneville Power Admin., 729 N. E. Oregon St., Portland, furnishing auto transformers, lifting beams, and services of erecting engineer, Inv. 4428, Lane Co., to General Electric Co., Public Service Bldg., Portland, **$727,500**.

●†Pa., Punxsutawney — U. S. Eng., 925 New Federal Bldg., Pittsburgh, Zone 19, removing structures, incl. excav., paving, piling, concrete structures, etc., Mahoning Creek through Punxsutawney Unit Sect. 4, Eng. 36-355-49-65, to Ruth Constr. Co., P.O. Box 29, Scottdale, **$1,190,086**. Bids 1/18. CD 1/27—ENR 2/3, under LB.

AIRPORTS AND AIRBASES

BIDS ASKED

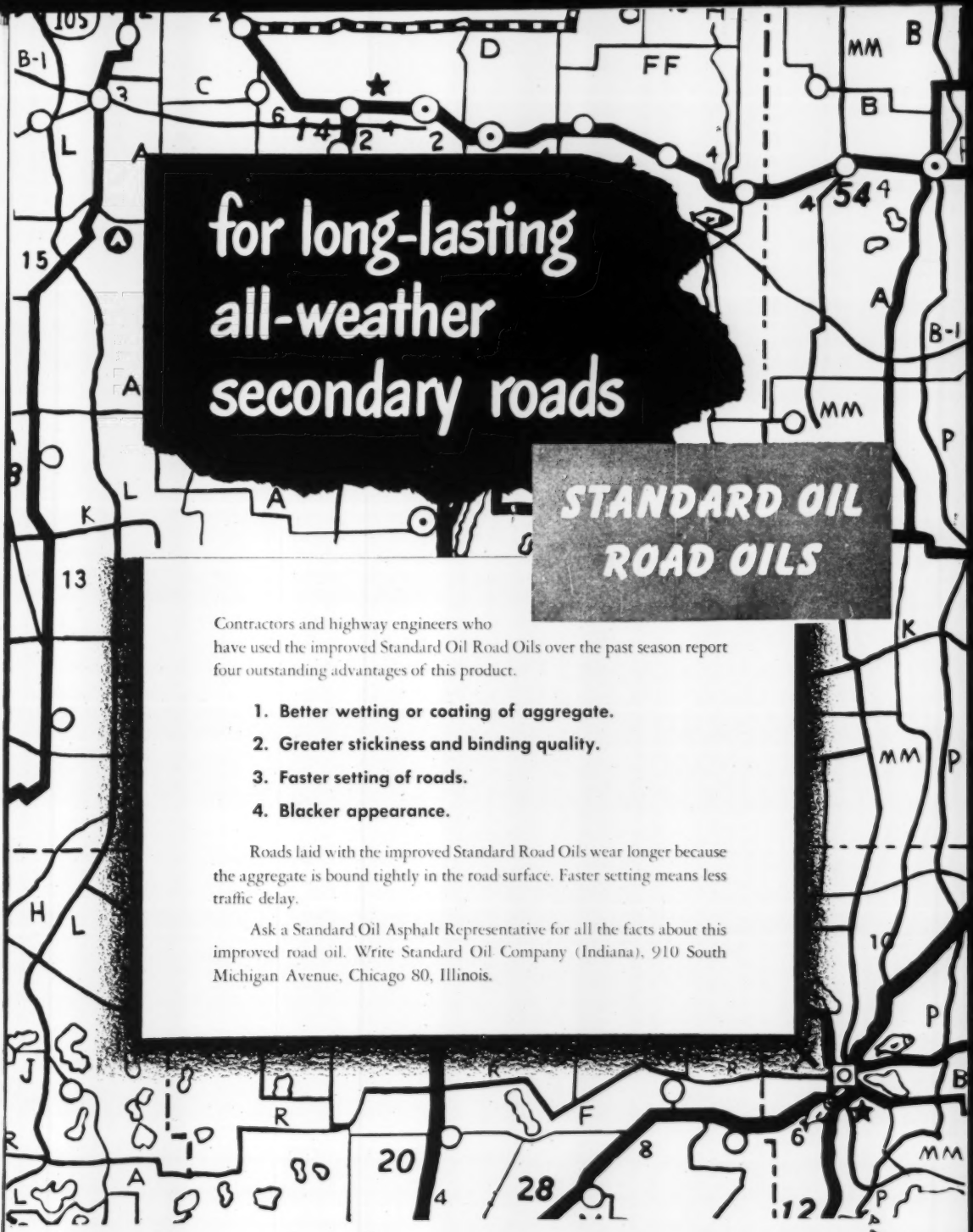
February 15

†Mass., Squantum — ELECTRICAL DISTR. SYS. REPAIRS—Officer-in-charge of Construction, First Naval Dist. Headquarters, 495 Summer St., Boston, repairing electrical distr. sys., U. S. Naval Air Station, Spec. 21621. Plans deposit $10.

February 21

Ind., Evansville—TERMINAL—Bd. Aviation Comrs., Municipal Airport, 2 story, 73x241 ft.,

(Continued on page 63)



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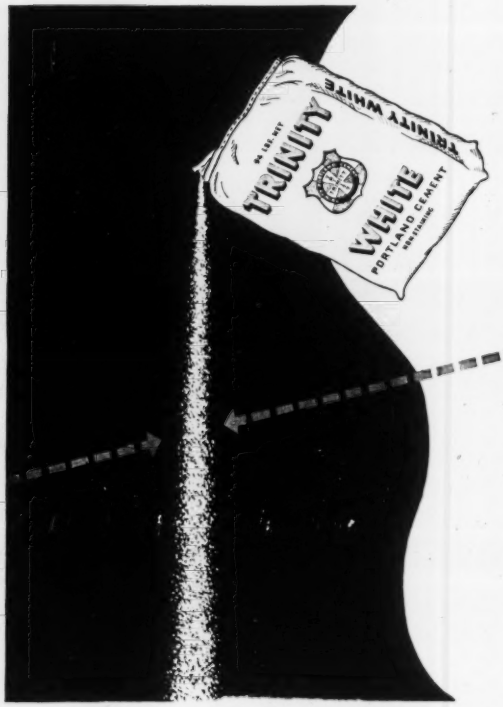

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(Continued from page 60)

brick, concrete, steel terminal bldg. $400,000. Plans deposit $25. Jack Kinkel, 14 Court Bldg., archt. CD 7/30—ENR 8/19.

CONTRACTS AWARDED

N. B., Chatham — HOUSING — Dominion Govt., Ottawa, Ont., dwellings at airport for R. C. A. F. personnel, to Terminal Constr. Co., Ltd., Moncton. Est. **$300,000.**

LATIN AMERICA

Cuba, Havana — Municipality of Havana, Cuba, water supply addns. Received one bid from Gonzalez del Valle, Havana, **$26,000,000.** Contract not signed. CD 10-26—ENR 10/28.

PUBLIC BUILDINGS

BIDS ASKED

February 16

●**Conn., Southington**—Town, Calvin T. Hughes, chn. High School Bldg. Comm., 2 story basmt., brick, steel, high school Main St., and Eden Ave., $1,500,000. Sibley & Nichols, 7 S. Main St., West Hartford, archts. Extended state; adv. ENR 2/5. CD 11/20—ENR 12/2.

Fla., Miami Beach—Dade Co. Bd. Pub. Instruction, Courthouse, Miami, Miami Beach School. Over **$300,000.** James W. Voorhies, 629 N. E. 64 St., Miami, archt.

Mass., Weymouth—Town, Elmer S. Mapes, supt. Schools, 69 Middle St., brick, steel Abigail Adams School and Pratt School addns., alterations, **$250,000.** Plans deposit $35. Bids 11/1 rejected. Coletti Bros., 687 Boylston St., Boston, archts. CD 11/9—ENR 11/11, under LB.

February 17

Neb., Fremont—City, power plant addn. $75,000. George Grabe, Fremont, archt. Lutz & May, Finance Bldg., Kansas City, Mo., consult. engrs. CD 4/14—ENR 4/29.

February 18

†**Oregon**—Bonneville Power Admin., 729 N. E. Oregon St., Portland, constructing 12,000 kva transformer bank addns. c/o south McNary substation 2 mi. east of Umatilla, Inv. 4189. Plans deposit $25.

†**Oregon**—U. S. Eng., 628 Pittock Block, Portland, Zone 5, project laboratory and appurtenant utilities at Lowell, Serial No. Eng-35-026-49-310.

February 21

†**Ill., Fort Sheridan**—U. S. Eng., 520 Merchandise Mart, Chicago, Zone 54, rehabilitation Post Exchange Bldg. 47, Fort Sheridan, Serial No. Eng. 11-032-49-11.

Ia., Ames—City, City Hall, municipal light plant improvs., extens., incl. Contr. 13, ash handling equip., Contr. 14, coal seals and chutes, Contr. 15, crane. Black, Burns & McDonnell Eng. Co., 95 and Troost Sts., Kansas City, Mo., engrs. CD 11/26/47.

†**N. M., Los Alamos**—U. S. Atomic Energy Comn., c/o Joseph R. Turan, chief of Contract Branch, Los Alamos, buildings and related services at Site TA-40 consisting 15 reinforced structures, 10,560 sq. ft. bit. surfaced roads, 2 concrete septic tanks, 6,400 lin. ft. c. i. water pipe and one lot electric transformers, culvert pipe and galvanized water pipe, Inv. 291-49-108. $500,000-$1,000,000. Plans deposit $15.

Ore., Albany—Linn County School Dist. 5, Albany, 3 wood frame with brick veneer schools, 1 each at Waverly, Sunrise and Liberty. Plans deposit $50. Glenn Stanton, 208 S. W. Stark St., Portland, archt. CD 12/17/47—ENR 1/8/48.

Va., Petersburg—At office L. H. Foster, pres. Virginia State College, Petersburg, Infirmary bldg. at Virginia State College for Negroes. $300,000. Plans deposit $20. J. Binford Walford & O. Pendleton Wright, 103 E. Cary St., Richmond, archts. CD 10/11/44—ENR 10/19/44.

February 22

Ont., Scarborough — Carter & Coleman, archts. 69 Front St. W., Toronto, 2 story, basmt., 64x275 ft. and 48x275 ft., brick, steel, stone, Scarborough Collegiate addn., for Bd. Trustees, Scarborough Collegiate Institute, Kingston Rd. and St. Clair Ave. E. Approx. $350,000. CD 12/27—ENR 2/3.

February 23

N. Y., Valley Stream—Bd. Educ., Union Free School Dist. 13, Rockaway Parkway, school, North Valley Stream, $755,000. Plans deposit $50. Frederick P. Wiedersum, 240 Rockaway Ave., archt. CD 2/9/47—ENR 7/24/47.

Ore., Clatskanie—Union High School Dist. 5, Clatskanie, 2 story, reinf. conc., wood frame high school. Plans deposit $25. Freeman & Hayslip, Postal Bldg., Portland, archts. CD 10/15—ENR 10/21.

March 8

●**Ala., Birmingham**—City, City Hall, city hall, $2,500,000. Extended date. Charles H. McCauley, Jackson Blvd., archt. CD 1/10—ENR 1/13.

Tex., Dallas — Dallas Independent School Dist., Akard and Royal Sts., remodeling masonry school, constructing new 40,250 sq. ft. unit, Leila P. Coward School, $750,000. Broad & Nelson, Burt Bldg., engrs. CD 10/13—ENR 10/28.

March 9

N. Y., Poughkeepsie—Bureau Contracts & Accounts, Albany, medical and surgical bldg. at Hudson River State Hospital. Plans deposit $30. CD 7/11/45—ENR 7/26/45.

March 11

●†**Tenn., Nashville**—Pub. Bldgs. Admin., 18 and F Sts. N. W., Wash. 25, D. C., federal office bldg., $5,000,000. Marr & Holman, Stahlman Bldg., archts. CD 1/21—ENR 2/3.

March 22

●**N. Y., East Meadow**—Bd. Supervs. Nassau Co., Old County Courthouse, Mineola, hospital alterations, addns. $7,000,000. Plans deposit $250. Eggers & Higgins, 342 Fifth Ave., New York. Zone 18, archts.

LOW BIDDERS

Fla., Gainesville—State Bd. Control, Tallahassee, 6 boy's dormitories at University of Florida from C. & R. Constr Co., Tallahasse, **$1,966,000.** CD 1/8—ENR 1/29.

La., New Orleans—St. Louis Cathedral, 615 Pere Antonie Alley, dan. 24, 2 story, brick, concrete convent, 3 story parochial school, 1 story gymnasium and auditorium bldg., from Perrilliat Rickey, 1530, S. Rendon St., **$473,093.** CD 1/22—ENR 1/29.

Mo., Fulton—Dpt. P. Health & Welfare, Samuel Marsh, dir., State office Bldg., Jefferson City, and J. F. Powell, dir. P. Bldgs., State Capitol, Jefferson City, Jan. 25, brick, concrete employees' dormitory, for State hospital I, from Simon-Sigler Constr. Co., 408 W. Walnut St., Columbia, **$430,000.** CD 1/16—ENR 1/29.

N. J., Flemington—Flemington Raritan Twp. Bd. Educ., Flemington, general contract school, from Belli Co., Broad Street Bank Bldg., Trenton, **$356,479.** CD 2/2.

●**N. Y., New York**—New York City Housing Auth., 63 Park Row, zone 2, Feb. 1, general contract Gun Hill Houses, Proj. NYC-9 in area bounded by Holland Ave., Gun Hill and White Plains Rds., Magenta St., Cruger Ave. and a line south of and parallel with Magenta St., Bronx Boro, from Albert A. Lutz & Peter Rose Co., 241 W. 17 St., Zone 11, **$1,204,264*****plumbing, from Fred Brutschy & Co., 228 E. 46 St., Zone 17, **$592,222*****electrical work from Are Electric Constr. Co., Inc., 739 Second Ave., Zone 16, **$217,330.** CD 1/6—ENR 1/13.

N. Y., Rockaway—New York City Housing Auth., 63 Park Row, New York, Zone 7, Feb. 3, foundations, appurtenances for Arverne Houses, Proj. NYC 18 in area bounded by Rockaway Beach Blvd., Arverne Blvd., Beach 56 St., Beach Channel Dr. and Beach 95 St., from Gulf Constr. Co., Inc., 518 Porter Ave., Brooklyn, Zone 22, **$533,111.** CD 1/24—ENR 1/27.

O., Cincinnati—State Dpt. P. Welfare, State Office Bldg., Columbus, contracts and bids rescinded, brick, brick or concrete backup, sanitary fireproof nurses home, at Longview Hospital for Insane. **$440,900.** Will re-advertise. H. G. Allen, c/o owner, state consultant, Fosdick & Himler, 1703 Union Trust Bldg., engrs. CD 6/21/45—ENR 7/12/45.

CONTRACTS AWARDED

Fla., Gainesville—State Bd. Control, Tallahassee, student service center at University of Florida, own forces, **$500,000.** Guy C. Fulton, 204 Peabody Hall, archt. CD 3/8/48—ENR 3/18/48.

Ia., Denison—City, City Hall, turbo-generator condenser for light and power plant extens., to Elliott Co., Jeannette, Pa., **$161,040.** Bids 1/25. CD 12/31—ENR 1/13.

Minn., Minneapolis—University of Minnesota, R. S. Callaway, purch. agt., 323 Administration Bldg., Main Campus, general contract chemical engineering bldg., Washington Ave. between Church and Union Sts., to H. N. Leighton Co., 716 S. 7 St., **$656,060.** Bids 1/18, awarded 1/28. CD 1/26—ENR 2/3, under LB.

Tex., Dallas — Dallas Independent School Dist., Akard and Royal Sts., general contract Clinton P. Russell school addn. to T. C. Bateson Constr. Co., Irwin-Keasler, Bldg., **$471,052.** Bids 1/25. CD 2/1.

COMMERCIAL BUILDINGS

BIDS ASKED

February 15

O., Columbus—St. Joseph's Cathedral, Bishop Michael J. Ready, 212 E. Broad St., two 2 and 3 story basmt., stone, limestone rectory bldgs.; remodeling Cathedral's sanctuary and sacristy, new 5th St. exit., etc. $500,000. Stickle, Kelly & Stickle, 2422 Prospect St., Cleveland, archts.

February 16

Tenn., Copperhill—Tennessee Copper Co., Copperhill, office, **$250,000.** Hunt, Caton & Assoc., 1225 James Bldg., Chattanooga, archts. CD 5/6—ENR 5/13.

March 4

●**Tex., Austin**—East Side Investment Co., c/o Max Brooks, pres., 121 E. 8 St., 12 story, basmt., 210 room, masonry, concrete, steel hotel and office, $1,500,000. Extended date. Giesecke, Kuehne & Brooks, 121 E. 8 St., archts. CD 1/25—ENR 1/27.

About March 11

Va., Front Royal—Warren Memorial Hospital, Inc., Frank A. Stoutamyer, pres., hospital. Plans deposit $25. J. J. Baldwin & Frederick Tilp, 927 15 St. N.W., Wash., D. C., archts.; adv. ENR 2/10.

About March 15

●**La., New Orleans**—Dr. Paul Sanitarium, c/o Andry & Feitel, archts., Carondelet Bldg., hospital addn., over $1,000,000. CD 1/16/48—ENR 2/5/48.

Bids Asked

●**Tex., Houston**—Bonwit Teller Inc., 5 Ave. and 56 St., New York, N. Y., 3 story, basmt. mercantile bldg. $1,300,000. Stanley & Rather, 500 Stuart St., archts. CD 12/17/47—ENR 1/1/48.

●**Tex., Houston**—S. H. Kress & Co., 701 Main St., (selected list bidders) 8 story, basmt., 100x100ft., masonry, concrete, steel mercantile addn., Fannin St. and Capitol Ave. $2,000,000. CD 7/9/47—ENR 8/7/47.

SOON TO LET CONTRACT

Calif., Pebble Beach—Del Monte Properties Co., Pebble Beach, soon lets contract 2 story, steel, reinf. conc., frame shops and office at Pebble Beach Lodge, $200,000. Gardner A. Dailey, 210 Post St., and Skidmore, Owings & Merrill, 58 Sutter St., San Francisco, archts. Isadore Thompson, 58 Sutter St., San Francisco, engr. CD 1/26.

Minn., St. Paul—Central Lutheran School Assn., Lafond Ave. and Goulte st., soon lets contract school North Lexington Parkway and Englewood Ave., **$350,000.** A. G. Plagens, 834 University Ave., St. Paul, archt. CD 9/25/46—ENR 10/10/46.

LOW BIDDERS

La., Shreveport—W. Harry Johnson Estate, c/o O. Neild & Sentell, archts., Texas & Western Bldg., Jan. 28, department store, from J. A. Jones Constr. Co., 292 W. 4 St., Charlotte, N. C., **$820,000.** CD 2/2—ENR 2/10.

Pa., Clearfield—Clearfield Hospital, Clearfield, 4 and 5 story, basmt. brick, steel hospital, from Cramp, Inc., 4043 Lancaster Ave., Pittsburgh, **$805,000*****plumbing, from David N. Brown, Bradford, **$111,423** **heating, from Harry Dougherty & Sons, Freeport, **$111,950.** CD 12/29—ENR 1/6.

Pa., Pittsburgh—St. Basils R. C. Congregation, Brownsville Rd., 3 story, brick, tile, steel parochial high school addn., Cedarville and Meredith Sts., from The Navarro Corp., 6219 Broad St. Est **$500,000.** CD 1/14—ENR 1/29.

●**Wash., Aberdeen**—St. Joseph's Hospital, Aberdeen, rejected bids Dec. 17, 4 story part basmt., 48 x 214 ft., reinf. conc. hospital addn., general constr. L. R. **$1,151,154;** mechanical L. R. **$271,812.** CD 12/23—ENR 12/30, under LB.

CONTRACTS AWARDED

Ala., Birmingham — Richard H. Brown & John G. Dearborn, 2020 11 Ave. S., 44 homes, force account. Over **$300,000.**

●**Conn., Bridgeport**—Westwoods, Inc., 333 Nutmeg Rd., two hundred 5 room brick frame duplex apartments, Beardsley Park Sect. Owner bldrs. **$1,250,000.**

Fla., Hialeah—St. John the Apostle, c/o Father Lawrence J. Flynn, 1980 Curtiss Dr., chapel, rectory and convent, to Brennan Constr. Corp., 5600 N. W. 7 Ave., Miami. Est. over **$300,000.**

Fla., Miami—South Florida Children's Hospital, c/o contractor, children's hospital, to John R. Orr, 485 N. W. 54 St., **$647,000.** CD 11/23—ENR 2/2, under LB.

Fla., St. Petersburg—Hendry Building Co., 1400 2 Ave. S., 26 homes, separate contracts. over **$250,000.**

Fla., Sarasota—First Presbyterian Church, c/o contractor, church addn. and general remodeling, to Jerry Harvey & Son, Sarasota. Est. over **$250,000.**

Ga., Atlanta—Forest Park Co., c/o contractor, apartment development, Jonesboro Rd., to Algernon Blair, 806 Henry Grady Bldg. Est. over **$500,000.**

Mich., Hillsdale—Hillsdale College, Hillsdale, dormitory, to Miller Davis Co., 1287 Portage St., Kalamazoo. Approx. **$325,000.** CD 12/30/47—ENR 1/15/48.

●**Pa., Pittsburgh**—U. S. Steel Corp., Koppers Bldg., and Mellon Natl. Bank & Trust Co., 514 Smithfield St., 40 story, basmt., 3 subbasmts., brick, stone, steel bank and office bldg., 5 Ave., etc., to Turner Constr. Co., 420 Lexington Ave., New York, N. Y. Est **$25,000,000.** Bids 1/27. CD 1/25—ENR 1/27.

●**Tenn., Chattanooga**—Interstate Life & Accident Insurance Co., c/o Hart, Freeland & Roberts, archts., 3rd Natl. Bank Bldg., Nashville, 6 story office, to Mark K. Wilson Co., Chamberlain Bldg. Est. **$1,750,000.** Awarded 1/28. CD 6/18—ENR 7/8.

Tex., Beaumont — J. Weingarten, Inc., 808 Prairie St., Jan. 11, store, to O. W. Collins, Fort Arthur, **$369,000.** Est. $250,000. CD 1/4—ENR 1/15.

Tex., Bellaire—Miles Strickland, 2nd Natl. Bank Bldg., Houston, 56 dwellings in 60 acre tract, own forces. **$378,000.**

Tex., Bellaire—Jack G. Vest, Bellaire, 37 dwellings, in Oak Land Plaza off Telephone Rd. Owner builds. **$370,000.**

Tex., Dallas — Asch-Abel Constr. Co., Inc., Construction Bldg., apartments, own forces. **$750,000.** CD 2/4/48—ENR 2/19/48.

Tex., Dallas—R. H. & E. L. Majors, 1st. Natl. Bank Bldg., apartments, Stevens Park area, own forces. **$650,000.**

●**Tex., Houston**—Brace & Carruth, 1087 W. 4 St., 421 dwellings, Althea, Chippendale, Wakefield, Woodcrest, etc. Sts., in oak Forest sub-division off N. Shepherd Dr. Owner builds. **$3,750,000.** CD 1/5.

Tex., Houston—W. Edward Brown & Assoc., 3628 Locke Lane, 100 dwellings in Lincoln city, between N. Shepherd and Hy. 75, own

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forces. Approx. **$550,000**. CD 11/28—ENR 12/9.

Tex., Houston—A. & H. Farb, c/o Irving Klein, archts, Bankers Mortgage Bldg., addn. motor hotel units, own forces. **$450,000**. CD 10/29/47—ENR 11/13/47.

Tex., Port Arthur—J. Weingartens, Inc., 808 Prairie St., Houston, store, to O. W. Collins, Port Arthur. **$367,000**. Est. $250,000. Bids 1/11. CD 1/4—ENR 1/13.

Ont., St. Catherines—M. Strothart, c/o L. Terpe, 2 Queen St., 50 dwellings, Princess Gardens. Owner builds. **$250,000**.

INDUSTRIAL BUILDINGS

BIDS ASKED

February 15

Pa., Neville Island (Pittsburgh P.O.)—MANUFACTURING — Chaplin Fulton Mfg. Co., 38 Penn Ave., Pittsburgh, 1 story, 150x220 ft., brick, block, steel mfg. bldg. $150,000. Franklin Doudon & Assoc., 522 Century Bldg., Pittsburgh, archts. CD 10/1/47—ENR 10/9/47.

February 16

N. Y., New York—PLANT—New York Journal of Commerce, 63 Park Row, Zone 7, publishing plant, 99-103 Worth St. $650,000. William Ginsberg, 381 Madison Ave., archt. CD 12/3/47—ENR 1/8/48.

February 19

Ill., Chicago — FACTORY, etc. — Benjamin Moore & Co., 415 N. Green St., 3 story, brick factory, office, boiler house and warehouse. Nesstadt & Love, 417 S. Dearborn St., engrs.

February 22

Ky., Whitesburg — COAL TIPPLE and HEADHOUSE—Stoker Coal Co., M. K. Marlowe, mgr., Whitesburg, tipple, chute and headhouse. Over $100,000.

SOON LETS CONTRACT

Minn., Willmar—WAREHOUSE, etc.—Kandiyohi Co-operative Electric Power Assn., O. N. Gravgaards, pres., soon lets contract 1 story, 98 x 130 ft. brick, warehouse office bldg. $100,000. Long & Thorshov, 400 Metropolitan Life Bldg., Minneapolis, archt. CD 2/2—ENR 2/10, under LB.

Mo., Palmyra—PLANT—Northeast Missouri Electric Power Co-operative, Palmyra, soon lets contract power plant, railroad sidings, embankments, road, parking area, drainage sys. Stanley Eng. Co., Hershey Bldg., Muscatine, Ia., engr.

Tex., Baytown—PLANT—Humble Oil & Refining Co., Baytown, soon lets contract 2 story plant locker bldg. units; 500-man locker bldg. at clock gatehouse; 1 story locker unit and workroom bldg.; 2 story Boiler House 6, steel, frame, brick and tile walls. $150,000. Nunn-McGinty, 2425 Ralph St., Houston, engrs. CD 12/10—ENR 12/23.

Ont., Hawkesbury—FACTORY—T. Pringle & Son Ltd., engrs., 485 McGill St., Montreal, Que., soon lets contract 1 story, reinforced brick factory, for St. Laurence Textiles, Ltd., 115 Poulin St., Marieville. $150,000.

LOW BIDDERS

Tex., Dallas — WAREHOUSE, etc. — Cohen Candy Co., 2022 Commerce St., rejected bids Jan. 14. 1 story, masonry candy plant and warehouse. Est. **$75,000**. CD 1/7—ENR 1/15.

Wis., Oshkosh—PLANT—Oshkosh Soap Co., 17 Bond St., project indefinitely postponed, rendering plant and hide cellar. CD 9/22—ENR 9/30.

CONTRACTS AWARDED

Ill., East St. Louis—PLANT—Soya Feed & Oil Corp., Russell O'Neill, mgr., 422 S. Front St., 2 story, brick, steel bldgs.; storage tanks in 400 block of S. Front St., to Chemical Plants Div. of Blaw Knox Co., 321 Pennsylvania Ave., Pittsburgh, Pa. Est. **$800,000**.

N. J., Clifton—PLANT—Allen B. DuMont Laboratories, Inc., 2 Main Ave., Passaic, tube plant, to Wenz Bros. & Storms Co., McLean Blvd. and 2 Ave., Paterson. Est. **$500,000**. Work started. Peter Holley, 195 Van Houten St., Paterson, archt. Jacoby-McGrayne & Co., 195 Van Houten St., Paterson, engrs. CD 12/31—ENR 1/8.

● **N. D., Beulah**—POWER PLANT—Montana-Dakota Utilities Co., Beulah, power plant changes and equip. to Stearns-Roger Mfg. Co., 1720 California St., Denver, Colo. **$1,000,000**.

Pa., West Mifflin — PLANT — Westinghouse Electric Corp., Union Bank Bldg., Pittsburgh, atomic research plant for nuclear power, Lebanon Church Rd., (Bettes Airport Site) to Mountaineer Eng. Co., 507 Blvd. of Allies, Pittsburgh. Est. **$150,000**. Bids 1/27. CD 1/25—ENR 2/3.

● **Tenn., Nashville** — PRINTING PLANT — Methodist Publishing House, Demonbreun St., 1 story, basmt., sub-basmt., 147x159 ft., steel, concrete printing plant addn., to R. C. Mathews, Third Nat'l Bank Bldg., over **$1,000,000**. Bids 1/18. CD 1/27—ENR 2/3, under LB.

Tex., Houston — SHOP — Southern Pacific Ry. Co., H. J. McKenzie, eh. engr., Southern Pacific Bldg., reconstructing railway shop unit, force account. **$800,000**. CD 12/30/47—ENR 1/15/48.

Wis., Madison—BOILER HOUSE—Madison Gas & Elec. Co., 100 N. Fairchild St., 7 story, 54 x 70 ft., steel, brick boiler house, concrete fdn., to J. H. Findorff & Son, Inc., 601 W. Wilson St. Est. **$425,000**. Mead & Hunt, 550 State St., engrs.

UNCLASSIFIED

BIDS ASKED

February 16

N. Y., Astoria—PARK—Comm. Parks at office Dpt. Parks, Arsenal Bldg., Central Park, 64 St. and 5 Ave., New York, Zone 21, park and playground areas adjacent to Astoria Houses, exten. from Vernon Blvd. to East River, Queens Boro, Contr. No. Q-G-1250-147. Plans deposit $20.

February 18

La., Maringouin—GAS SYSTEM, etc.—D. B. Harrow, mayor, Maringouin, natural gas sys., and transmission lines. Plans deposit $25 Barnard & Bunk, Fried Bldg., Baton Rouge, engrs. CD 10/11—ENR 10/28.

February 23

Calif., Los Angeles—PARKS—Bd. Supervs. Los Angeles Co., 501 Hall of Records, community center bldgs. at Laguna Park; Alsandra Lake Park, John S. Simms Park, Lomita Park, Garvey Memorial Park, Belvedere Park; Lakewood-Pan American Park. $550,000. Jack H. Macdonald, 1043 E. 8 St., Los Angeles, archt. CD 12/27—ENR 1/29.

About February 24

†N. M., Las Cruces—ELECTRICAL DISTRIBUTION—U. S. Eng., P. O. Box 1538, Albuquerque, electrical distr. sys. for missile assembly bldg. (White Sands P. G. 9 8710.

February 25

†Washington—STEEL TOWERS—Bonneville Power Admin., 729 N. E. Oregon St., Portland, Ore., furnishing 230 kv. steel towers, single-circuit rotated and lattice-pole type for Grand Coulee Snohomish Line No. 2, Inv. 4485.

February 28

Que., Quebec City—WHARF—National Harbours Bd., C. P. Buckley, secy., West Block, Ottawa, Ont., straightening Wharf 20, Quebec Harbor. Approx. $75,000. Plans deposit $100.

March 3

N. Y., St. George—PLUMBING FACILITIES—Comr. Marine & Aviation, Pier A, North River, foot of Battery Pl., New York, Zone 4, plumbing facilities for Terminal Bldgs., reconstructing terminal and approaches at St. George Ferry Terminal, Contr. 2595R. Plans deposit $10. CD 3/21/45—ENR 3/31/45.

SOON LETS CONTRACT

Texas—RURAL DISTRIBUTION LINES—San Bernard Electric Co-operative, Bellville, soon lets contract 89.48 mi. rural distr. lines, converting 38.82 mi. rural distr. lines, Austin Co. $110,000. Extended date. J. H. Flood & Co., 707 Amicable Bldg., Waco, engrs. CD 1/18.

LOW BIDDERS

Missouri—RURAL DISTRIBUTION LINES—Co-Mo Electric Co-operative, Jack H. Needy, mgr., Tipton, Jan. 26, 287.02 mi. rural distr. lines, 11 mi. conversion work, Benton, Morgan, Moniteau and Cooper Counties. Proj. MO-47M-Cooper, from Howard Constr. Co., Sedalia. **$113,689**. CD 1/18.

Pa., Butler—SWIMMING POOL, etc.—City, City Hall, Dec. 1, 80x120 ft. concrete pool; 11x28 ft. wading pool; 100x200 ft. bathhouse from New Castle Duntele Co., 1409 Moravia St., New Castle. **$111,392**. CD 11/26.

Tex., Houston—PARK—City, M. H. Westerman, secy., Jan. 26, Denver Harbor Recreational Park imprvs., from Le Blanc, Inc., P. O. Box 351, **$96,616**. R. G. Schneider, 520 W. Bell Ave., archt. CD 11/19/47—ENR 12/11/47.

†Washington—STEEL TOWERS—Bonneville Power Admin., 729 N. E. Oregon St., Portland, Ore., Jan. 28, furnishing 230 kv. single circuit, rotated and lattice pole type steel towers and anchorage steel for Olympia-Covington power line, Thurston Co., Inv. 4464, from American Bridge Co., Frick Bldg., Pittsburgh, Pa., **$474,683**. CD 1/18.

CONTRACTS AWARDED

La., Baton Rouge—SWIMMING POOL, etc.—Park Comm., East Baton Rouge Parish, Baton Rouge, swimming pool, bath house concession stand, Brook Park. Leo Albert A. Stevens, 2320 Iroquois St., **$98,179**. Bids 1/19 awarded 1/26. CD 1/27—ENR 2/3, under LB.

New Mexico — RURAL DISTRIBUTION LINES—Mora-San Miguel Electric Co-operative, Inc., Mora, general contract labor only 257 mi. rural distr. lines, Mora Co., to Thompson, Haight & Keister, 2006 N. Port Ave., Oklahoma City, Okla., **$130,799**. Bids 11/9, awarded 1/30. CD 10/27.

Tennessee—RURAL DISTRIBUTION LINES—Tri-County Electric Membership Corp., Lafayette, 311 mi. rural distr. lines, Monroe, Barton, Metcalf and Cumberland Counties, to L. O. Brayton Co., Dyersburg. **$168,620**. CD 12/17—ENR 12/30.

Texas—INJECTION and EJECTION LINES—Union Producing Co. & Assocs., United Gas Bldg., Houston, laying approx. 35 mi. field injection and ejection lines in fields of gas receiving plant, now under construction, near Pettus, to Morrison Constr. Co., Odessa. **$115,000**.

Ont., Carillon—DAM—Dominion Govt., Dpt. Transport, Ottawa, repairing dam. **$70,000**. Owner builds.

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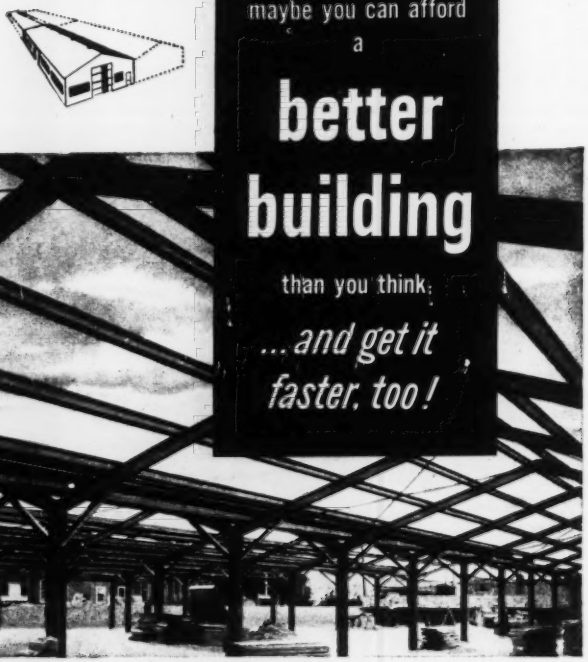

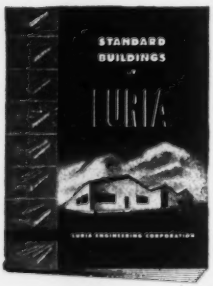

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CONSTRUCTION REPORTS

Third Section

WATER SUPPLY

BIDS ASKED

February 15

Ga., Ringgold—Town, exten. watermains. Plans deposit $20. J. B. McCrary Eng. Co., 22 Marietta St. Bldg., Atlanta, engr.

Ill., Litchfield—City, City Hall, watermain extens. $50,000. Crawford, Murphy & Tully, 400 S. E. Adams St., Springfield, engrs. CD 11/16/44—ENR 11/30/44.

February 23

†N. M., Los Alamos—U. S. Atomic Energy Comm., Los Alamos, water supply imprv., 3 well houses, steel standpipe, booster pumps, piping, telemeters, electrical work, etc. $30,000.

Va., Norfolk—City, City Hall, furnishing, erecting two 1 m. g. welded steel water storage tanks 120 ft. high.

About February 25

N. C., Randleman—Town, 12,000 ft. 6- to 10-in. watermains, 5,000 ft. 8 in. sewermains, 200,000 gal. elevated tank, 100,000 gal. concrete reservoir and pump house. Richard H. Moore, Asheboro, engr.

February 28

Tex., Dallas—Dallas County Park Cities Water Control & Imprvt. Dist. 2, c/o Ed S. Wesson, secy., Republic Bank Bldg., rein.-con. fdn. for 2 m. g. elevated water tank; valve vault for feeder main; 15 in. rein. con. overflow drainpipe, etc. $30,000. Powell & Powell, 501 Thomas Bldg., engrs.

March 1

Kan., Manhattan—City, City Hall, WW sys. imprvs., incl. 2 mgd filters with piping, equip., mix. basins, remodeling basins, 200,000 gal. covered reservoir, two 1,400 gpm high service pumps, yard and plant piping, addns. to buildings. Black & Veatch, 4706 Broadway, Kansas City, Mo., engrs. CD 11/18—ENR 12/9.

Tex., Rockdale—City, WW sys. expan. imprvs. $64,000. Plans deposit $25. Julian Montgomery, 602 West Ave., Austin, engr.

LOW BIDDERS

Calif., San Francisco—Pub. Utilities Comn., City Hall, Feb. 1, installing 16 in. c.i. watermains in Quint St., Oakdale and Newcomb Aves., Spec. 491, from E. J. Tobin, 1060 Carleton St., Berkeley. **$40,901.**

Michigan—State Hy. Dpt., Lansing, Jan. 28, altering water sys., storm sewer in John C. Lodge Expressway from Holden to Lothrop Aves., UI 82-157 C-19, Wayne Co., from Sugden & Silver, Inc., 2323 Eight Mile Rd., Hazel Park. **$75,203.** M. H. Frimodig, state hy. engr.

Okla., Enid—City, two 6 m. gal. concrete storage reservoirs, from D. C. Bass & Sons Co., Bass Bldg., **$333,688.** Est. $475,000. CD 8/27—ENR 9/16.

Tex., Dallas—Earl Goforth, secy., 24 in. c.i. watermain in Corinth St. between Industrial and S. St. and 16 in. line in S and Ronnie View Sts. from Corinth to Morrell Sts. from Ben Sira & Co., 6419 Maple Ave., **$49,370.** Est. $80,000. CD 2/1—ENR 2/10.

Tex., Houston—City, M. H. Westerman, secy., Feb. 2, 1 story, 40 x 107 ft., steel, brick North Side Pump Station, concrete fdn., etc., from I. G. Apdish, 1911 Kolfahl Ave. (A) **$295,984** (B) **$295,772.** Est $190,000. CD 1/11—ENR 1/20.

CONTRACTS AWARDED

Conn., Groton—Groton Boro. Dpt. Utilities, 358 Thames St., brick, concrete filtration plant addn., Contr. L. to N. Benvenutti & Sons, 16 Elm St., New London. **$737,000.** Bids 12/22. CD 1/5—ENR 1/13, under LR.

Tex., Houston—Plumb-Mitchell, Inc., 4550 Griggs Rd., c.i. waterlines, facilities, Long Dr. and Telephone Rd. area, own forces. **$55,000.** H. D. Frankfurt, 2539 Southgate St., consult. engr.

SEWERS, WASTE DISPOSAL

BIDS ASKED

February 15

Ga., Ringgold—Town, extend sanitary sewers. Plans deposit $20. J. B. McCrary Eng. Co., 22 Marietta St. Bldg., Atlanta, engr.

February 24

Calif., Imola—State Div. Architecture, P. Wks. Bldg., Sacramento, sewage pump station and force main at Napa State Hospital. Anson Boyd, Sacramento, state archt.

March 1

Tex., Rockdale—City, J. B. Newton, mayor, sanitary sewerage sys. exten., imprvs. $56,000. Plans deposit $25. Julian Montgomery, 602 West Ave., Austin, engr.

March 8

Kan., Kingman—City, C. J. Peterson, city clk., City Hall. Part 1, West District sewerage sys., Sewer Dist. 2; Part 2, East Dist. sewerage

(Continued on page 68)

Satisfactory service for over 35 years on a

Tough Assignment, too!

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non-return VALVES

In thousands of tough applications Golden-Anderson Non-Return Valves are protecting life and property by automatically performing these three vital functions:

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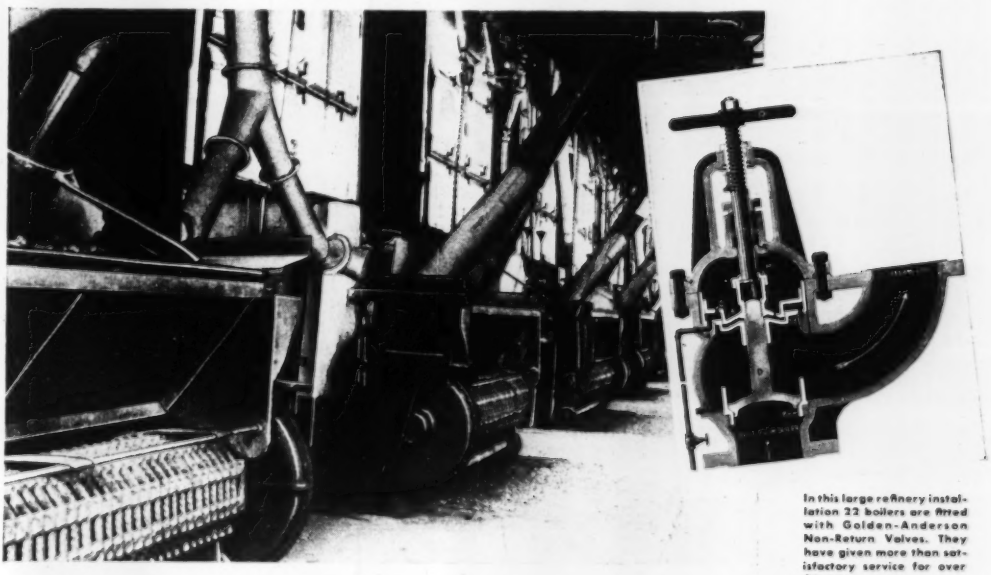

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GOLDEN-ANDERSON *Valve* **Specialty Co.**

KEENAN BUILDING, Pittsburgh 22, Pa.

(Continued from page 66)

838, Sewer Dist. 3, Part 4, main sewer, incl. 18 in. vitr. clay and iron pipe, southern part No. 2, Main Sewer 1, sewage disposal works; 18 in. vitr. clay sanitary sewer out-fall line from city limits to sewage disposal works to river. Plans deposit $10. Wilson & Co., 223 N. Santa Fe St., Salina, engrs.

LOW BIDDERS

Calif., Redwood City—San Mateo Co., Courthouse, Feb. 1, Crystal Springs Rd. Outfall Sewer, Portion No. 2 tracts, from A. Teichert & Son, Inc., Box 1113. **$883,923.** CD 1/17—ENR 1/20.

CONTRACTS AWARDED

Calif., Chico—City, City Hall, South Chico Sewage Drainage Sys., to Irrigation Constr. Co., E. 22 St. and Park Ave. **$102,064**; North Chico Drainage Sys., to N. P. Van Valkenburgh, Howe Ave., Sacramento. **$137,229.** Bids 2/4. CD 1/3 ENR 1/6.

Ia., Ames—City, City Hall, sewage plant, to Leigh Bros. Constr. Co., Bonne. **$972,500.** Bids 2/17. CD 2/4—ENR 2/3, under LB.

N. Y., Buffalo—Buffalo Sewer Auth., City Hall, drains in connection with Bailey-Kensington storm proj., to John R. Schultz Contg. Co., 316 Crestwood Ave. **$340,360.** Est. $405,000. Awarded 2/2. CD 9/18/47—ENR 10/1/47.

Tex., Houston—Plumb-Mitchell, Inc., 4550 Griggs Rd., sanitary sewers, Long Dr. and Telephone Rd. area, own forces. **$65,000.** H. D. Frankfurt, 2539 Southgate St., consult. engr.

Tex., Jacinto City—City, L. Chandler, mayor, 10328 Palestine St., Houston, sanitary sewers, force account. **$55,000.**

BRIDGES

BIDS ASKED

STATE HIGHWAY LETTINGS

March 3

Florida

February 17

●**Kan., Kansas City**—City, City Hall, repairing Central Ave. Viaduct. $1,000,000. Swerdrup & Parcel, 1118 Security Trust Bldg., 915 Olive St., St. Louis, 1, Mo., engrs. CD 9/1—ENR 9/9.

February 25

●**Tex., Corpus Christi**—At office J. R. Laurence, engr., Nueces Co. Courthouse, causeway proj. between Corpus Christi and Padre Island. $1,500,000. Myers & Noyes, 520 Wilson Bldg., engrs. CD 1/15—ENR 1/20, under LB.

February 28

Pennsylvania—Pennsylvania Turnpike Comm., 11 N. 4 St., Harrisburg.

York Co. and Dauphin Counties—substructure and superstructure, Turnpike Sect. 22C/D, Susquehanna River Bridge, part of Phila. exten., Fairview Twp., Lower Swatara Twp. and Steelton Boro., adv. ENR 2/17. CD 1/19—ENR 2/3.

LOW BIDDERS

Idaho—State Hy. Dpt., Boise, Jan. 28, 1,790 tons steel for 1,352 ft. bridge over Clearwater River, Lewiston, Nez Perce Co., from Henry Hartman & Erickson Paving Co., Cashmere, Wash. **$539,192.** CD 1/19.

Michigan—State Hy. Dpt., Lansing, Jan. 28, bridge crossing Grand Trunk Western R. R. and Chesapeake & Ohio R. R. on U. S. 25, Military St., UX5 of 77-20-1, C-1, St. Clair Co., from L. W. Lamb, 1833 Park Rd., Holland. **$88,071.** M. H. Frimodig, Lansing, state hy. engr.

New Hampshire—State Hy. Dpt., Concord, Kelly Falls Bridge alterations, on Kelly St., in Manchester, incl. installing steel grid concrete filled floor, installing new rail, changing some existing steel members, painting structural steel and minor repairs to abutments, from Harry R. Lee, 540 Beacon St., Manchester. **$133,422.**

CONTRACTS AWARDED

Idaho—State Hy. Dpt., Boise, substructure, 1,352 ft. bridge, Clearwater River, incl. concrete piers, illumination and abutments, Nez Perce Co., to J. H. Wise & Son, 424 Broadway, Boise. **$307,000.** CD 1/19.

STREETS AND ROADS

BIDS ASKED

STATE HIGHWAY LETTINGS

February 18

Kansas
Washington

February 15

Neb., Omaha—City, paving 4 alleys, c. conc. and asph., some manholes, curbing and sidewalks, covering 13 blocks of streets. $65,000. E. W. Woodbridge, city engr. CD 1/26.

February 22

Tex., Midland—City, R. H. Gifford, mayor, asph. streets. $235,000. Plans deposit $35. CD 10/17/47—ENR 10/30/47.

LOW BIDDERS

Michigan—State Hy. Dpt., Lansing, Jan. 28, c. conc. 2,671 ft. M 24 relocation from M 21 in Lapeer north, CF44-34 C-1, Lapeer Co., from Pierson Contg. Co., 609 Eddy Bldg., Saginaw. **$309,723;** c. conc. 0.956 mi. Broadway St., M 8-21 C-1, Barry Co., from Ray Schram, Inc., 2827 S. Cedar St., Lansing. **$105,309.** M. H. Frimodig, state hy. engr.

Wash., Seattle—City, County-City Bldg., Zone 4, Feb. 2, paving 36 Ave. S. W., from Seattle Contg. Co., 3419 16 Ave. W., **$324,132.** Est. $305,609. CD 1/26.

CONTRACTS AWARDED

Kentucky—State Hy. Dpt., Frankfort, Jan. 28, bit. 3.208 mi. Morehead-Owingsville Rd., FE 3081, SP 103-82, Rowan Co., to Kentucky Road Oiling Co., Frankfort. **$165,731.** CD 2/2—ENR 2/10, under LB.

Tex., Houston—Plumb-Mitchell, Inc., 4550 Griggs Rd., asph. paved streets, Long Dr. and Telephone Rd. area, own forces. **$85,000.** H. D. Frankfurt, 2539 Southgate St., consult. engr.

Wash., Seattle—City, County-City Bldg., Zone 4, paving 42 Ave. and c. conc. 45 Ave. N.E., to Northwest Constr. Co., 3550 S. Ave. N. W. **$66,227** est. $67,000 and **$186,333** est. $203,000 respectively. Bids 2/2. CD 1/26.

EARTHWORK, WATERWAYS

BIDS ASKED

February 23

Calif., Oakland—City, City Hall, Lyon Creek channel and structures. Over $30,000. Plans deposit $5. Walter Frickstad, City Hall, engr.

February 24

†**Illinois**—U. S. Eng., 826 U. S. Court House and Custom House, St. Louis, 1, Mo., levees, Prairie Du Rocher, Illinois and vicinity Gum Ha-Ay, Edgar Lakes and Prairie Du Rocher and Modoc Drainage & Levees Districts, Randolph Co., Serial No. Eng., 23-065-49-102. CD 2/2—ENR 2/10.

March 8

†**Texas**—U. S. Eng., foot of Prytania St., New Orleans 9, La., snagging and clearing approx. 16.7 mi. Little Cypress River, Marion and Harrison Counties, Serial Eng. 16-047-49-221.

March 15

Tex., Beaumont—Beaumont Navigation Dist. 6, Courthouse, flood gates along new channel of Taylor's Bayou. $550,000. Norris & Shipley, Beaumont, consult. engrs. CD 5/31/46—ENR 6/13/46.

LOW BIDDERS

†**Colorado**—Bureau Reclamation, Dpt. Interior, Paonia, Feb. 1, diversion works, earthwork and structures for enlargement Fire Mountain Canal, Station 4 plus 92 to Station 14+ plus 00.00, Paonia Proj., Delta Co., Spec. 2718, from Young & Smith Constr. Co., Beacon Bldg., Salt Lake City, Utah. **$291,335.** CD 12/28—ENR 1/6/?

AIRPORTS AND AIRBASES

BIDS ASKED

March 1

●†**Alaska**—AIRPORT IMPRVSR.—U. S. Eng., CAPO 942, c/o P.M., Seattle, Wash. 1, Anchorage, addnl. outside utilities at Ladd Field. $1,500,000. CD 10/26—ENR 11/11.

†**Alaska**—AIRPORT IMPRVS.—U. S. Eng., CAPO 942, c/o P.M., Seattle, Wash. 1, Anchorage, outside utilities, and addnl. outside utilities at Elelson Air Force Base. CD 10/26—ENR 11/11.

CONTRACTS AWARDED

●†**Alaska**—AIRPORT—U. S. Eng., Rialto Bldg., Seattle, Wash., two 26-man bachelor quarters, to Redl & Martin, Fairbanks. **$624,000***** Seven family quarters, to Morrison-Knudsen Co. and Peter Kiewit Sons Co., Hoge Bldg., Seattle 4, Wash. **$2,063,000.** Bids 1/18. CD 1/24—ENR 1/27, under LB.

●†**Alaska, Anchorage**—AIRPORT—Civil Aeronautics Admin., Box 449, Anchorage, International airport with one 7,000 ft. and one 5,000 ft. runways, to C. E. Lytle Co. & Green Constr. Co., 312 Masonic Temple Bldg., Des Moines, Ia. **$1,974,151.** Bids 12/15. CD 12/21—ENR 12/23, under LB.

PUBLIC BUILDINGS

BIDS ASKED

February 14

●**Ill., Hinsdale**—Bd. Educ., Hinsdale, 2 story, brick, concrete, steel high school. $2,250,000. Contract not awarded. Childs & Smith, 20 N. Wacker Dr., Chicago, archts. CD 8/13—ENR 8/19, under CA.

February 17

Kan., Lawrence—State Bd. Regents, Topeka, Corbin Hall addn. at University of Kansas. $500,000. Charles Marshall, Topeka, state archt. CD 12/3—ENR 12/9.

February 21

Calif., Tulare—Tulare City School Dist., Tulare, 12 classroom concrete, wood Maple School. $280,000. Plans deposit $25. Walter Warner, Fulton-Fresno Bldg., Fresno, archt. CD 1/24.

February 23

Ky., Russellville—Logan Co., Russellville, hospital. Cuts & Grimes, 312 Tyler Bldg., Louisville, archts.

†**Oregon**—Bonneville Power Admin., 729 N.E. Oregon St., Portland, addns. to Troutdale Substation, east of Sundial Rd., 1 mi. north of U. S. Hy. 30 near Troutdale, Multnomah Co., Inv. 1495. Plans deposit $25.

Ore., Mill City—School Dist. 129-J, Mill City, 60x204 ft. pumice block school. Plans deposit $35. Sheldon Haatvedt, 340 W. 1 St., Albany, archt.

February 24

●†**N. M., Albuquerque**—U. S. Eng., P. O. Box 1538, 1,000 man mess hall, Type A, at Sandia Base, Serial No. Eng-29-065-49-7. **$1,250,000.** Bid date change. CD 1/24—ENR 1/27.

February 25

Calif., San Bernardino—San Bernardino Co., Courthouse, San Bernardino County Hospital, incl. boiler room and workshop, 40x100 ft. laundry addn., linen storage bldg., walk through tunnel, heating sys. $1,000,000. Stockley & Rainford, 124 W. 4 St., Los Angeles, engrs. CD 12/6/46—ENR 1/17/46.

Ill., Glen Ellyn—School Dist. 41, Glen Ellyn, 1 story, brick, concrete, steel, stone school. $250,000. Childs & Smith, 20 N. Wacker Dr., Chicago, archts.

About March 1

Fla., Miami—Dade Co., Miami, Juvenile Detention Home. Over $250,000. Robert Fitch Smith, 201 Shoreland Bldg., archt. CD 11/29—ENR 12/16.

March 1

†**Alaska, Fort Richardson**—U. S. Eng. CAPO 942 c/o P.M., Seattle, Wash. 1, Anchorage, motor pool warm storage bldg. CD 2/2—ENR 2/10.

March 2

†**Ark., Hot Springs**—U. S. Eng., at Government Aircraft Plant 3, 2000 N. Memorial Dr., Tulsa, Okla., Enlisted Men's Service Club Army and Navy General Hospital, Hot Springs National Park, Inv. No. Eng-34-066-49-75. CD 9/2—ENR 9/16.

March 3

North Carolina—National Guard Bureau, Justice Bldg., Raeligh, motor vehicle storage bldgs. at Mt. Airy, Durham, Roxboro, Forest City, North Wilkesboro and Lenoir. Plans deposit $25.

March 7

Man., Churchill—National Harbour Bd., engr., West Block, Ottawa, Ont., government bldg., for Dominion Govt., Ottawa, Ont. $250,000. Plans deposit $100.

March 10

Tex., Denton—City and Denton Co., Denton, masonry, 60-bed Flow Memorial Hospital, concrete pier and beam fdn. $712,500. Bennett & Reynolds, 2812 Fairmount St., Dallas, archts. CD 9/21—ENR 10/14.

●**Tex., Galveston**—John Sealy Hospital Foundation, c/o J. W. McCullough, pres., 915 Strand St., one 6 story and one 3 story, rein.-con., masonry bldgs. $2,500,000. C. H. Page & Son, 205 W. 11 St., Austin, archts. CD 8/25/44—ENR 9/7/44.

About March 15

Ill., Marion—Marion School Dist. 52, Eugene W. Morrison, pres. School Bd., brick, concrete, steel, stone Junior High School. $340,000. Mercy & Wilson, Mount Vernon, archts. CD 8/25/44—ENR 9/7/44.

March 17

†**Washington**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., station-service generator control cubicle SLS3 for Grand Coulee left power plant, Columbia Basin Proj., Spec. 2558.

LOW BIDDERS

Calif., Los Angeles—Bd. P. Wks., 153 City Hall, Feb. 2, 1 story, 119 x 164 ft. rein.-con., brick office and garage addn. to fire station, from Finau Constr. Co., 125 W. 4 St., **$341,566,** Est. $375,000. CD 1/24.

Calif., Sacramento—State Div. Architecture, Pub. Wks. Bldg., Feb. 1, furnishing, erecting structural steel frame on concreted grid type fdns. for 5 story, basement State Capitol Bldg. addn., from Bethlehem Pacific Coast Steel Corp. 26 and Illinois Sts., San Francisco, **$398,826.** CD 1/4—ENR 1/20.

Mo., Marshall—State Dpt. P. Health & Welfare, Sam Marsh, dir., State office Bldg., Jefferson City, and John F. Powell, dir., P. Bldgs., State Capitol, Jefferson City, Jan. 27, 1 and 2 story, ground floor 55 x 88 ft. and first floor 36 x 178 ft. and 36 x 55 ft. partly on grade brick, concrete tubercular patients bldg., 2 story, 42 x 159 ft. brick, concrete, stone hospital, Missouri State School, from George E. Bauman, 13 E. Austin St., Nevada. **$720,715.** CD 1/10—ENR 1/20.

Proposal Advertisements see pp. 69 to 72

OFFICIAL PROPOSALS

Hospital Building

On or about January 26, 1949, drawings and specifications for the construction of one hospital building at Front Royal, Virginia, will be available for distribution to general contractors by J. J. Baldwin & Frederick Tilp, Architects, 927-15th Street, N. W., Washington, D. C.

Applications from contractors interested in bidding on this work not to exceed three sets of drawings and specifications together with payment of $25.00 per set should be filed promptly with the Architect, and the bidding material will be forwarded, shipping charges collect, as soon as available. Any bidder upon returning such set promptly and in good condition will be refunded his payment, and any non-bidder upon so returning such set will be refunded $20.00. Bids on this work will be opened by Warren Memorial Hospital, Inc., on the date named in the specifications, which will be about 42 days after the bidding material is available for distribution.

(854)

Bids: March 15, 1949 (856)

General Construction

CITY OF LONG BEACH
LONG BEACH, N. Y.

Sealed bids for General Construction, Contract "A", will be received by the City Council of the City of Long Beach, Long Beach, N. Y., City Hall, Long Beach, N. Y., until 8:00 o'clock, P.M., E.S.T., March 15, 1949, and at its meeting at that time publicly opened and read aloud.

The Notice to Bidders, Forms of Proposal and Contract, Plans and Specifications may be examined at said office and copies thereof obtained at the office of Clarence MacCallum, Consulting Engineer, 299 Main Street, Port Washington, N. Y., or at the City Clerk's office in City Hall, Long Beach, N. Y., upon payment of $20.00 for each set. Any bidder upon returning such set in good condition within five days after bids are opened will be refunded $10.00 of his deposit.

Each bid must be accompanied by security check or bid bond in an amount of not less than five per centum (5%) of the base bid in the form and subject to the conditions provided in the "Notice to Bidders", and must be enclosed in a sealed wrapper with a notation thereon of the particular contract to which the bid refers.

The checks of unsuccessful bidders will be returned within ten days after making awards.

The City Council, City of Long Beach, N. Y., reserves the right to waive any informalities in or to reject any or all bids or to accept any bid which they deem to be most favorable to the interest of the City.

CITY COUNCIL,
CITY OF LONG BEACH,
NEW YORK
Maurice J. Fleischman
City Clerk.

February 10, 1949.

Bids: March 10, 1949 (848)

Additions to Intercepting Sewer System

CITY OF NEW BEDFORD, MASSACHUSETTS. Sealed bids for constructing additions to the intercepting sewer system, including about 4 miles of gravity sewers ranging in sizes from 24-inch to 8-inch, together with appurtenant constructions, and for constructing two sewage pumping stations together with about 800 feet of 12-inch force main sewers in the City of New Bedford, Massachusetts, will be received by the Mayor, in his office at New Bedford City Hall until 11:00 a. m., Eastern Standard Time, on March 10, 1949; and then will be opened publicly and read aloud. The Contract Documents including Specifications and Drawings may be examined at the office of the Public Works Department, Engineering Division, New Bedford City Hall, and at the office of Fay, Spofford & Thorndike, Engineers, 11 Beacon Street, Boston, Mass., on and after February 10, 1949, every week day except Saturday between the hours of 9 a. m. and 4 p. m. and copies thereof may be obtained at the office of the Engineer upon payment of $20.00 for each set, for which no refund will be made.

Each bid must be accompanied by a certified check for 5 per cent of the bid price, as bid security. Attention of bidders is called particularly to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract. No bid may be withdrawn within thirty calendar days after the date of opening thereof.

A performance bond in an amount equal to 100 per cent of the contract price will be required. The right is reserved to waive any informalities in or to reject any or all bids, and to award the contract to any one of the contractors bidding on the work regardless of the amount of the bid.

CITY OF NEW BEDFORD, MASSACHUSETTS
By ARTHUR N. HARRIMAN, MAYOR
February 10, 1949

OFFICIAL PROPOSALS

Bids: February 28, 1949 (851)

Alterations and Additions to Water Treatment Plant

SEALED BIDS will be received by the City Clerk of Willimantic, Connecticut at the offices of the City Clerk, Room 3, City Hall until 1:00 P.M., Eastern Standard Time, February 28th, 1949, for the construction of Contract No. 1 comprising Alterations and Additions to the Existing Water Treatment Plant and Pumping Station, and miscellaneous appurtenances for the City of Willimantic, Connecticut, at which time they will be opened and publicly read.

Each bid shall be in accordance with the requirements of the Contract Documents which are available for examination or purchase at the offices of the City Clerk, Willimantic, Connecticut or of Gibbs & Hill, Inc., Consulting Engineers, Pennsylvania Station, New York 1, New York. Copies may be purchased upon deposit of $20.00 per set, which deposit will be refunded to each actual bidder, and one-half of the deposit to non-bidders, upon return of such copies in good condition within 5 days after the bids are opened.

The City reserves the right to reject any or all bids and to waive any informality in bids received.

Dated at Willimantic, Connecticut, this 3rd day of February 1949.

Roger F. Paulhus,
City Clerk

Bids: February 16, 1949 (857)

High School Building Project

TOWN OF SOUTHINGTON,
CONNECTICUT
NOTICE TO CONTRACTORS:

The time for receiving and the opening of proposals for the construction of the above project, heretofore announced as Monday, February 7th, 1949 at 7:30 P.M. has been extended to Wednesday, February 16th, 1949 at 7:30 P.M. at the Court Room in the Town Office Building.

By order of the High School Building Committee, January 31st, 1949.

CALVIN T. HUGHES,
Chairman

U. S. Government

U. S. DEPARTMENT OF COMMERCE, CIVIL AERONAUTICS ADMINISTRATION, Box 449, Anchorage, Alaska. Bids will be received under Invitation No. 849-842 until 2:00 p.m., March 15, 1949, for the construction of an airport near Fairbanks, Alaska. The work in general consists of the following:

371 ac Clearing and or grubbing, light willow birch and alder
8,318 lin. ft. Corr. metal pipe in place, size ranging from 18" to 12"
2,238,000 cu. yd. Unclassified excavation
250,370 sq. yd. Gravel base course ranging from 6" to 15" in depth
81,750 gal. Bituminous prime coat
32,555 gal. RC-2 bituminous seal coat
38,928 ton Hot mix 3" bituminous surface
95 ac. Seeding and fertilizing
10,275 lin. ft. Underground power cable in place for field lighting, together with related lights and conduit

Other miscellaneous items such as paint striping of runways, concrete drainage structures, relocation of power and telephone lines, etc.

Plans, specifications and bid forms are available from this office. A deposit of $25.00 per set by certified check or money order payable to Treasurer of U. S. is required on each set of plans furnished.

(850)

U. S. Government

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2549) will be received by Bureau of Reclamation, Denver, Colorado, until 10 a.m., March 8, 1949, and then publicly opened for furnishing labor, equipment, and materials and performing all work for the construction of a 750-kva substation at Haxtun, Colorado, Colorado-Big Thompson Project. Principal items are: Installing electrical equipment; constructing concrete foundations; erecting steel towers and chain-link fence; and other work. Time allowed for completion will be 400 days. For particulars, address the Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.

(846)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2545) will be received by Bureau of Reclamation, Parker Dam, California, until 10 a.m., March 15, 1949, and then publicly opened for furnishing labor and materials (except poles) and performing all work for the construction of approximately 30 miles of 115-kv, wood-pole, H-frame-type transmission line, from the substation at Coolidge to the Electric District No. 5 substation, Davis Dam Project, Arizona-Nevada. Time allowed for completion will be 500 days. For particulars, address the Bureau of Reclamation, Parker Dam, California, or Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.

(845)

Public Roads Administration, Federal Works Agency, February 2, 1949. SEALED BIDS will be received at the office of the Public Roads Administration, 305 Medical Arts Building, Florence, Alabama, until 10:00 a.m., C.S.T., March 4, 1949, for the construction of Project 2L2, Natchez Trace Parkway, Attala County, Mississippi: a reinforced concrete overpass, a box culvert, and approaches. The approximate quantities of the more important items are as follows: 54,800 cu. yd. Excavation, 1,892 cu. yd. Cement Concrete and 265,100 lb. Reinforcing Steel. Minimum wage rates have been fixed as required by law. For plans and specifications, a deposit of $10.00 cash or certified check made payable to the Treasurer of the United States will be required to insure their return within 15 days after the opening of bids. Plans, specifications and proposal forms may be obtained from the Public Roads Administration offices at 305 Medical Arts Building, Florence, Alabama, or 1440 Columbia Pike, Arlington, Virginia. H. J. Spelman, Division Engineer.

(855)

(Continued on page 70)

Official Proposals Columns of

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are MUST reading, each week, for contractors, engineering-construction companies, equipment and materials manufacturers, all over the United States.

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Official Proposal Division

ENGINEERING NEWS-RECORD

New York 18, N. Y.

OFFICIAL PROPOSALS
(Continued from page 69)

Bids: February 23, 1949 ($40)

Water Transmission Main

(NOTICE OF LETTING)

CITY OF NORFOLK, VIRGINIA

Proposals will be received by the Department of Public Works, Room 203, City Hall, Norfolk, Virginia, for Furnishing and Installing Raw Water Transmission Main and Appurtenances, until 12 noon, E.S.T., Wednesday, February 23, 1949 at which time and place they will be publicly opened and read.

Bids shall be enclosed in two envelopes. The inner envelope shall be endorsed "Bids for Transmission Main, Contract No. 2" and shall also be marked with the name of the company and the Virginia contractor's license number. The outer envelope shall be addressed to the Department of Public Works.

The work embraces the furnishing and installation of approximately 70,000 linear feet of pipe. Alternate bids will be taken on cylinder reinforced concrete pressure pipe and welded steel pipe in alternate sizes of 48, 46 or 42 inches in diameter. Valves, valve vaults and appurtenances are included.

Each bid shall be accompanied by a certified check in the amount of Fifty Thousand Dollars ($50,000.00) made payable to Alex H. Bell, Treasurer of the City of Norfolk, Virginia.

Drawings and Specifications may be obtained from the office of the Department of Public Works of the City of Norfolk, or from the office of Whitman, Requardt and Associates, 1304 St. Paul Street, Baltimore 2, Md., upon deposit of Twenty-five Dollars ($25.00) for each set of drawings and specifications, which deposit will be returned upon return of the plans and specifications in good condition.

The Department of Public Works reserves the right to reject any or all bids and to accept the bid which in their opinion best serves the interests of the City.

H. H. George, 3rd,
Director of Public Works

Bids: March 3, 1949 ($53)

General Construction, Plumbing, Electrical Work, and Heating

SEALED PROPOSALS WILL BE RECEIVED at the Office of the Troy Housing Authority of the City of Troy, New York, City Hall Building, Troy, New York on MARCH 3, 1949, until 4:00 P.M. Eastern Standard Time. On the same day and immediately thereafter, the sealed proposals will be opened and read publicly by the Troy Housing Authority of the City of Troy, New York, in the City Hall, Troy, New York.

THE SEALED PROPOSALS ARE TO BE FOR:

CONTRACT NO. 1—GENERAL CONSTRUCTION
CONTRACT NO. 2—PLUMBING
CONTRACT NO. 3—ELECTRIC WORK
CONTRACT NO. 4—HEATING

For Troy Housing Project Project NY.S.—33 located in the City of Troy, New York, bounded by Madison Avenue, Campbell Avenue, and Dunham Street.

On and after FEBRUARY 3, 1949, the Contract Documents may be examined at the office of:

FLETCHER LANKTON
JOHN N. ZIEGELE, Architects
1100 Main Street, Peoria 5, Ill.
REISNER & URBAHN—Architects—
660 Madison Ave., New York 21, N. Y.
F. W. DODGE CORPORATION—
119 W. 40th St., New York 18, N. Y.
F. W. DODGE CORPORATION—
70 Niagara St., Buffalo 5, N. Y.
ROCHESTER BUILDERS EXCH.—
125 Spring St., Rochester, N. Y.
SYRACUSE BUILDERS EXCH.—
Junction Bldg., Syracuse, N. Y.
BROWN'S LETTERS, INC.—
101 Park Ave., New York, N. Y.

They may also be examined at the offices of the Troy Housing Authority of the City of Troy, New York, located in the City Hall Building, Troy, New York at which office additional copies thereof may be obtained upon payment of $25.00 as a deposit to guarantee the safe return thereof. If a proposal is duly submitted by any person or corporation making the deposit required, the full amount of such deposit for one set will be returned to such person or corporation, provided that the set is returned in good condition within thirty (30) days following the award of this Contract or the rejection of the proposal of such person or corporation. Upon return of additional sets in good condition within such period whether by a person or corporation duly submitting a proposal or by some other person or corporation failing to submit a proposal, reimbursement will be made to the extent of $25.00 for each set returned.

Checks offered as payment for the documents must be made payable to the order of the Troy Housing Authority.

TROY HOUSING AUTHORITY
WILLIAM D. ROSWELL, CHR.
JUSTIN E. DRISCOLL, SEC'Y.

Bids: February 24, 1949 ($52)

Storm Drain Detention Basin

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

RT. 6, SEC. 7A, STORM DRAIN DETENTION BASIN

Construction of Route 6, Section 7A, Storm Drain Detention Basin, at Meyer Street and Dye Avenue, in the Borough of East Paterson and City of Garfield, Bergen County.

Estimated:
7,600 cu. yds. Roadway Excavation-Earth
13,500 sq. yds. 4" Topsoiling
600 lin. ft. 18" & 21" Rein. Conc. Pipe
70 lin. ft. 18" Cast Iron Pipe
1,200 lin. ft. Wire Mesh Fence

Bids for the above will be received at the office of the Highway Department, Room 102, State House Annex, Trenton, N. J., on Thursday, February 24, 1949, at eleven o'clock (11:00 A.M.—EASTERN STANDARD TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten per cent (10%) of the amount of the bid, provided that the said certified check shall not be less than $5,000.00 nor more than $50,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

Bids: February 16, 1949 ($42)

Construction of Barricades on Flood Control

NOTICE TO BIDDERS

Sealed Proposal Covering

Construction of Barricades on Flood Control Projects at The Village of Avoca, Village of Painted Post and City of Corning, Steuben County, New York.

Approximate cost of Contract under Proposal No. 1—$99,260.

Approximate cost of Contract under Proposal No. 2—$72,870.

will be received by Henry A. Cohen, Director, Bureau of Contracts and Accounts, Department of Public Works, The Governor Alfred E. Smith State Office Building, Albany, N. Y., on behalf of the Department of Public Works until 10:30 o'clock A. M. eastern standard time on Wednesday, February 16, 1949 when they will be publicly opened and read.

Each proposal must be made upon the form and submitted in the envelope provided therefor and shall be accompanied by a certified check made payable to the State of New York, Commissioner of Taxation and Finance, of 5% of the amount of the bid as a guaranty that the bidder will enter into the contract if it be awarded to him. The title of the work must be written on the front of the envelope, sealed and delivered to Henry A. Cohen, Director, Bureau of Contracts and Accounts, The Governor Alfred E. Smith State Office Building, Albany, N. Y. The blank spaces in the proposal must be filled in, and no change shall be made in the phraseology of the proposal. Proposals that carry any omissions, erasures, alterations or additions may be rejected as informal. Successful bidder will be required to give a bond conditioned for the faithful performance of the contract and a separate bond for the payment of the laborers and material men, each bond in the sum of 100% of the amount of the contract or contracts in excess of $500 and such indemnity bonds as may be required by the Railroad Companies. Corporations submitting proposals shall be authorized to do business in the State of New York. Drawings and specifications may be examined free of charge at the following offices: Guy W. Finch, Deputy Chief Engineer The Governor Alfred E. Smith State Office Building, Albany, N. Y.

State Architect, 18th Floor, 270 Broadway, New York City.

H. F. Brumm, District Engineer, 30 West Main St., Hornell, N. Y.

Drawings and specifications may be obtained from the Director, Bureau of Contracts and Accounts, The Governor Alfred E. Smith State Office Building, Albany, N. Y., upon deposit of $5.00 for each set.

Refund in full will be made to bidders for one set of plans and specifications returned in good condition within 30 days of award of contract or the rejection of the bids. A 50% reimbursement will be made for the return in good condition of all other sets of the plans and specifications within 30 days following the award of the contract or the rejection of the bids.

Check for the plans and specifications shall be made payable to the State of New York.

Proposal blanks and envelopes will be furnished without charge.

R. D. TALAMY, Superintendent
New York State Department of Public Works

U. S. Government

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2551) will be received by Bureau of Reclamation, Denver, Colorado, until 10 a.m., March 16, 1949, and then publicly opened for furnishing labor and materials and performing all work for the construction of a 115-kv, 3-phase, single-circuit, wood-pole, H-frame-type transmission line approximately 27 miles long from the Flatiron switching station to the Greeley substation, Colorado-Big Thompson Project, Colorado. Time allowed for completion will be 240 days. For particulars, address the Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner. (8429)

(Continued on page 71)

Official Proposals Columns of
ENGINEERING NEWS-RECORD
are MUST reading, each week, for contractors, engineering-construction companies, equipment and materials manufacturers, all over the United States.
. . . and used regularly for over 50 years by government, state, county and municipal departments for advertising bids.
Official Proposal Division
ENGINEERING NEWS RECORD
Address: New York 18, N. Y.

OFFICIAL PROPOSALS
(Continued from page 70)

Bids: March 1, 1949 (842)

Instalation of Electric Meters

Invitation No. 49-7 January 27, 1949

Subject: NOTICE OF ADVERTISING FOR BIDS FOR INSTALLATION OF ELECTRIC METERS ON EXISTING HOUSING UNITS, IN OAK RIDGE, ANDERSON COUNTY, TENNESSEE

TO: Prospective Bidders and Others Concerned:

1. On January 29, 1949, Roane-Anderson Company, as Agent for and on behalf of the United States of America under Contract No. W-7401-eng-115, will issue invitations for bids for installation of Electric Meters on Existing Housing Units, in Oak Ridge, Tennessee.
2. The work consists of furnishing all labor, tools, equipment and materials and performing all work required to complete the installation of Electric Meters on Existing Housing Units and associated work in strict accordance with the specifications and drawings, together with such incidental work at the site as may be necessary to complete the work within the intent and meaning of the specifications. The work includes furnishing and installing approximately 7378 electric meters and requires approximately 70,500 lineal feet of new exterior cable and approximately 5000 lineal feet of new exterior 1¼ inch conduit, together with accessories incidental to this work.
3. All bids will be considered not only on the basis of the lowest bid but on the applicable experience, financial assets, integrity of the bidder and his ability to obtain equipment and employees. The Roane-Anderson Company, as Agent aforesaid, reserves the right to reject any and all bids and to waive any informality in bids received, and to accept or reject any item of any bid, unless such bid is qualified by specific limitation. However, all accepted items will be awarded as a whole to one bidder.
4. Bids will be received until 2:00 p. m. (EST) March 1, 1949 and then publicly opened. Two-hundred and ten (210) calendar days will be allowed for the completion of the work.
5. Request for plans and specifications should be made to Roane-Anderson Co., Attention: F. C. Feld, Assistant Chief Purchasing Agent, Purchasing Dept., P. O. Box 556, Oak Ridge, Tennessee, and should be accompanied by a Postal Money Order or a certified check payable to the order of Roane-Anderson Co., in the sum of $15.00 which deposit will be refunded after the plans and specifications have been returned in good condition.
6. For additional information address the above mentioned, or telephone F. C. Feld, through Knoxville, 2-7132, extension 4859, or Oak Ridge 5861, extension 4859.

ROANE-ANDERSON COMPANY, AS AGENT FOR AND ON BEHALF OF THE UNITED STATES OF AMERICA

U. S. Government

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation, Sealed bids (Specifications No. 2548) will be received by Bureau of Reclamation, Denver, Colorado, until 10 a.m., March 3, 1949, and then publicly opened, for furnishing labor and materials and performing all work for the relocation of State Highway No. 280, Granby Reservoir, Colorado-Big-Thompson Project, Colorado. Principal items are approximately: clearing right-of-way, 55 acres; excavation, all classes, 127,-000 cu. yds.; riprap, 1,000 cu. yds.; furnishing and laying corrugated-metal pipe, 5,000 lin. ft.; furnishing and erecting timber bridges; and other work for approximately 8½ miles of road. Time allowed for completion will be 450 days. For particulars, address the Bureau of Reclamation, Region 7, Customhouse, Denver, Colorado; or Building I-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner. (844)

OFFICIAL PROPOSALS

Bids: February 16, 1949 (831)

State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Chapter 63 Laws of 1936, as amended, and special provisions for projects financed with federal aid funds, sealed proposals will be received until ten-thirty o'clock A.M. eastern standard time on *WEDNESDAY, FEB. 16, 1949* by Henry A. Cohen, Director, Bureau of Contracts & Accounts, *11th* Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects: Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts & Accounts, Albany, N. Y., and at the office of the District Engineers noted below, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for plans and proposal forms for each contract containing 1 to 15 sheets is $5.00; 16 to 30 sheets, $10.00; over 30 sheets, $20.00. A refund will be made in full to bidders for the return of one set in good condition within 30 days of award or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
		DISTRICT No. 1				
		G. L. Nicholson, Dist. Engr., 353 Broadway, Albany, N. Y.				
Wash., N. Y. Rutland, Vt.	FARC 49-6 FAVT 49-1	Whitehall-Fair Haven, S. H. 1542 (Br. over the Poultney River: Project No. F1083(1))	0.54	Alpha $68.74 Steel & Conc. Deck 110' Asph. Conc. Opt. = 0.41 Mi. Conc. 8" Thk., 24' Wdt. = 0.13 Mi.	$15,000 Plans $5.00	$281,000
		DISTRICT No. 3				
		Wm. Robinson, Dist. Engr., Weigh Lock Bldg., Syracuse, N. Y.				
Cayuga	FASS 49-6	Oakwood-Half Acre—Half 3.39 Acre-Webster Cors. (Project No. S230(1))		Asph. Conc. Opt. = 2.70 Mi. Conc. 8" Thk., 20'-24' Wdt. = 0.69 Mi.	$20,000 Plans $5.00	$348,000
Seneca	FASS 49-9 RC 49-11	Romulus Ctr.-Asbury Cors., Co. Rd. No. 14 & Reservation Rd.-Varick, S. H. 321 Reservation Rd.-Fayette, S.H. 320 Project No. S791(2)	12.48	Asph. Conc. Opt.	$34,000 Plans $5.00	$603,000
		DISTRICT No. 4				
		A. R. Mulligan, Dist. Engr., Barge Canal Terminal, Rochester 1, N. Y.				
Monroe and Ontario	FASS 49-7	Honeoye Falls-Monroe Co. Line Monroe Co. Line-W. Farmington Project No. S240(1)	7.22	I-Beams 28½"; 42½' Bit. Mac. Pen. Meth.	$25,000 Plans $10.00	$434,000
Monroe	LOSP 49-1	Lake Ontario State Park, Section A	4.26	Alpha $320.60 I-Beam 100' App. Spans, 2 at 68' each Fdn. Conc. R. C. B. Gravel	$95,000 Plans $20.00	$1,655,000
Ontario	FARC 49-7	Dresden-Geneva, Pt. 2, S. H. 1704 Project No. F505(5)	5.24	I-Beams 41", 9" Widen 2 Span I-Beams, 68', 73' Conc. 9" Thk., 24' Wdt.	$40,000 Plans $20.00	$762,000
		DISTRICT No. 5				
		C. R. Waters, Dist. Engr., State Office Bldg., 65 Court St., Buffalo, N. Y.				
Erie	FAC 49-1	Delaware Ave.: City of Buffalo Nottingham Ter. to Tacoma Ave. Proj. U1078(5)	1.11	Misc. Work = 0.66 Mi. Asph. Conc. Opt. = 0.45 Mi.	$14,000 Plans $5.00	$248,000
Erie	FARC 49-8	Orchard Park-E. Aurora, S.H. 1066, Proj. F1054(2)	0.40	Deck Girder 3 Spans, Tot. 236' Misc. Work = 0.08 Mi. Conc. 9" Thk., 24', 28' Wdt. = 0.32 Mi.	$17,000 Plans $5.00	$300,000
		DISTRICT No. 7				
		R. F. Hall, Dist. Engr., 444 Van Duzee St., Watertown, N. Y.				
St. Lawrence	FASS 49-8	Stockholm Ctr.-Lawrenceville, Pt. 1, Proj. No. S283(1)	6.01	Conc. slab, 32' I-Beam 66', 95', 2 at 80' Alpha $248.42 Misc. = 0.03 Mi. Asph. Conc. Opt. = 0.12 Mi. Bit. Tr. Gravel = 5.86 Mi.	$45,000 Plans $20.00	$803,000
Jefferson	SH 49-5 RC 49-12	Woodville-Shore Road Ellisburg-Woodville, S. H. 801	1.74	Thru Truss 240' Span Conc. 8" Thk., 20'-24' Wdt.	$27,000 Plans $10.00	$485,000
		DISTRICT No. 8				
		J. S. Bixby, Dist. Engr., Pleasant Valley Rd., Poughkeepsie, N. Y.				
Ulster	RC 49-10	Saugerties-Village, S. H. 5601	0.13	Asph. Conc. Opt. Widening	$1,200 Plans $5.00	$21,000
Ulster and Sullivan	SH 49-4 SH 49-6 SH 49-7	Woodbourne-Ellenville, Pt. 1, 2A, 2B	10.94	I-Beam, 3 Span Total 197' I-Beam & Conc. Slab Total 91' Gravel Surf.	$75,000 Plans $20.00	$1,342,000
		DISTRICT No. 10				
		J. J. Darcy, Dist. Engr., Montauk Hwy at Little East Neck Rd., Babylon, L. I., N. Y.				
Nassau	FARC 49-13	North Hempstead Turnpike, S. H. 9018; Proj. F541(6)	0.41	Deck, Total Span 2144' Conc. Pavt.	$33,000 Plans $5.00	$567,000
New York	FACBE 49-3	Cross Bronx Expy. Cont. 2X (Highbridge Conn.) Proj. U1084(12)	0.22	Rigid Frame 87', 8" Conc. 9" Thk. 2 at 36'	$60,000 Plans $20.00	$1,003,000
Bronx and New York	FACBE49-4	Cross Bronx Expy. Cont. 3 Washington Br. Alterations Proj. U1084(13)	0.36	Alterations to Br. Conc. 3" Thk. 2 at 33'	$33,000 Plans $5.00	$655,000
Bronx	FACBE 49-2	Cross Bronx Expy. Cont. 8X Longfellow Ave. Harrod Ave. Proj. U. 1084-2	0.39	6 Brs. Substructures total spans: 78', 73', 139', 176', 388', 441' 9', 469' Grad. & Structs.	$200,000 Plans $20.00	$3,375,400

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by cash, draft or certified check payable to the order of "State of New York, Commissioner of Taxation & Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders". When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated. The right is reserved to reject any or all bids.

B. D. Tallamy
Supt. of Public Works

(Continued on page 72)

SEARCHLIGHT SECTION

OFFICIAL PROPOSALS
(Continued from page 71)

Bids: February 15, 1949 (829)

Improvements to Airport

Bids close at 10:00 A.M. on the 15th day of February 1949.

NOTICE TO CONTRACTORS: Sealed proposals for the construction of Schedules I and II of first stage improvements to Wold-Chamberlain Field in Minneapolis, Minnesota, will be received by the Minneapolis-Saint Paul Metropolitan Airports Commission at their office at 2429 University Avenue, St. Paul 4, Minnesota until the hour of 10:00 A.M. on the 15th day of February 1949 and will be publicly opened and read aloud immediately thereafter. The work includes grading, drainage, concrete surfacing, seeding, alterations to existing field lighting system and incidental work necessary for the extension to the north of the existing north-south runway in accordance with plans and specifications prepared by Toltz, King and Day, Inc., Engineers and Architects, St. Paul, Minnesota.

This work is the first of three construction projects at Wold-Chamberlain Field, totaling about $3,000,000 on which it is planned to award contracts during 1949.

Separate proposals are required for Schedules I and II which are general construction and electrical work respectively. Proposals shall be upon blanks furnished for that purpose.

The schedule of minimum wages as established by the Secretary of Labor and set forth in the Special Provisions are to govern on this project, and bids shall be based on these established minimum wage rates.

Each bid must be accompanied by a certified check made payable to the Minneapolis-Saint Paul Metropolitan Airports Commission in an amount not less than 5% of the total bid, or a surety bond in the same amount running to the Commission, with a surety company thereon as surety duly authorized to do business in the State of Minnesota, as a guarantee that the bidder if successful will enter into a contract with the Minneapolis-Saint Paul Metropolitan Airports Commission and give bond as required by law for the work described in the proposal, the amount of check or bond to be retained by the Commission in case he fails to so do. All proposal guarantees, except those of the two low bidders, will be returned within five days after the opening of bids. The proposal guarantee of the second low bidder will be returned within 10 days after the opening of bids.

No bidder may withdraw his bid for a period of thirty days after the date set for the opening thereof. The Minneapolis-Saint Paul Metropolitan Airports Commission reserves the right to reject any or all proposals and to waive informalities therein.

Plans and specifications are on file at the office of the Minneapolis-Saint Paul Metropolitan Airports Commission, 2429 University Avenue, St. Paul 4, Minnesota, and at the office of Toltz, King and Day, Inc., Engineers and Architects, 159 Pioneer Building, St. Paul 1, Minnesota. Contractors desiring plans and specifications for personal use may secure them from the Engineers and Architects upon deposit of $20.00 for each set of plans and specifications. This deposit will be returned upon return of the plans and specifications in good condition within a reasonable time after the date of receiving bids.

Dated at St. Paul, Minnesota, January 14, 1949.

MINNEAPOLIS-SAINT PAUL METROPOLITAN AIRPORTS COMMISSION

By Robert Aldrich
Executive Director
2429 University Avenue
St. Paul 4, Minnesota

U. S. Government

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation Sealed bids (Specifications No. 2743) will be received by Bureau of Reclamation, Denver, Colorado, until 2 p. m., February 24, 1949, and then publicly opened for furnishing and installing two passenger elevators and one freight elevator for Grand Coulee Pumping Plant, Columbia Basin Project, Washington. Time allowed for completion will be 265 days. For particulars, address the Bureau of Reclamation, Coulee Dam, Washington, or Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner. (817)

OFFICIAL PROPOSALS

Bids: April 6, 1949 (841)

Calcasieu River Bridge

NOTICE TO CONTRACTORS

Sealed proposals for the construction of the following project will be received by the Louisiana Department of Highways, Room 310, Highway Office Building, Baton Rouge, Louisiana until 10:45 A. M. on Wednesday, April 6, 1949. After 10:45 A. M., proposals will be received in the Chamber of the Court of Appeals in the State Capitol until 11:00 A. M. No proposals will be received after 11:00 A. M. At 11:00 A. M. of the same day and date they will be publicly opened and publicly read in the Chamber of the Court of Appeals in the State Capitol.

OFFICIAL PROPOSALS

STATE PROJECT NO. 3-20-03, FEDERAL AID PROJECT NO. FI 35 (17), CALCASIEU RIVER BRIDGE (LAKE CHARLES) located in CALCASIEU PARISH, STATE ROUTE NO. C-2109. Length: 1.306 miles. Type: STEEL AND CONCRETE SUPERSTRUCTURE.

Full information and proposal forms are available at the offices of the Department of Highways at Baton Rouge. Plans and specifications may be inspected at said office or plans will be furnished upon payment of $17.00 (not to be refunded). Bids must be submitted on proposal forms provided by the Department.

The Department reserves the right to reject any or all proposals.

DEPARTMENT OF HIGHWAYS
R. R. RICHARDSON, DIRECTOR

EMPLOYMENT

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WANTED—ENGINEERS, Architects, Draftsmen experienced in the design of sewers, sewage treatment plants, water treatment plants and industrial buildings. Also engineers to supervise construction. State qualifications, experience, salary requirements and date available. P-1155, Engineering News-Record.

WANTED—STRUCTURAL Engineer. Capable of designing simple structures in steel and reinforced concrete. Applicant must have several years of experience. Opportunity for top position. Give full details, salary and date available. P-7606, Engineering News-Record.

WANTED: EXPERIENCED structural and industrial designers. Seelye, Stevenson & Value, 101 Park Avenue, New York, N. Y.

WANTED—YOUNG, Ambitious, assistant engineer by road and utility contractor. Westchester County. State qualification, experience and salary requirements. P-7830, Engineering News-Record.

WANTED—THOROUGHLY experienced estimator for building contractor specializing in public works and commercial buildings. Box 1565, Mobile, Alabama.

MATERIALS ENGINEER—C.E., experience in highway materials, permanent, good salary and opportunity. Give full information. P-7838, Engineering News-Record.

CIVIL ENGINEER with five to ten years experience in hydraulic and sanitary fields. Must be capable of coordinating design and supervising preparation of plans and specifications of dams, hydraulic structures, waterworks plants, sewers and sewage treatment. Opening with consulting engineering firm located in a Midwestern city 25,000 population. Excellent opportunity for a qualified engineer with proper personality to fit into an existing organization. Apply by letter. Include complete information on education and experience. P 7856, Engineering News-Record.

WANTED—GENERAL Construction Superintendent on a large housing project. Must be good organizer and capable of assuming full responsibility of the actual construction as well as the coordination of all subcontracted trades. P 7843, Engineering News-Record.

MIDDLE-WEST General contractor desires services of aggressive, experienced structural civil engineer capable of estimating and supervising building and heavy construction. Submit qualifications, references, age, salary expected and when available. P 7916, Engineering News-Record.

ENGINEERS (ALSO Administrative and Clerical)—Construction will start on two new power houses in the early spring and will need complete organizations. Parties interested in employment write Sanderson & Porter, Box 81, Monongahela, Pennsylvania, attention C. A. Tipton, giving complete record in first letter including marital status, education, experience, references, salary desired and any other pertinent information. P 7895, Engineering News-Record.

WANTED CONSTRUCTION Manager and Professional Engineer licensed in the State of New York, thoroughly experienced in field and office, management, estimating engineering cost recording and construction methods for heavy construction in and around New York. State age and salary expected. P 7955, Engineering News-Record.

(Continued on page 73)

Well Qualified

MECHANICAL DESIGNERS

are needed by

GENERAL ELECTRIC CO.

for responsible positions in the new field of nucleonics

at

Hanford Works
Richland, Washington

operated by G.E. for the U.S. Atomic Energy Commission

Experience must include a minimum of ten years actual drafting experience, the major portion of which has been mechanical, such as developmental design of heavy or semi-heavy equipment. Experience as a checker or lead designer is highly desirable.

Education requirements include college level mathematics up to calculus, strength of materials and mechanics.

Attractive Salary Rates

Write for Application

to

Employment Supervisor

GENERAL ELECTRIC CO.
Richland, Washington

WANTED—Mechanical and Structural Engineers For designing and detailing work on concrete reinforcement, structural steel and hangar door construction. Requirements are three to four years practical experience or recent graduation from technical school. Desirable working conditions and opportunities for advancement. These openings are with a nationally known steel fabricating company, located in eastern Ohio. Applicants will please submit a record of their qualifications. P-7737, Eng. N-R. 520 N. Mich. Ave., Chicago

WANTED
CHIEF OF PARTY
Instrument man, rodman, draftsman, calculator. Consulting Civil Engineer's Office in northeast Jersey.
P-7798, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

SEARCHLIGHT SECTION

POSITIONS VACANT

WANTED

Experienced estimator on fibre and multiple tile duct conduit construction, cast iron, steel and welded gas main construction, business with New England Utility Companies and Telephone Co. at least five years experience in this field, submit references, former employment, salary required. Contractor's Home Office, Boston, Mass. All work Greater Boston Area.

Position available at once or before March 15, 1949.

P 7881 Engineering News Record
330 W. 42nd Street, New York 18, N. Y.

POSITIONS VACANT

(Continued from page 72)

WANTED, ENGINEER—Superintendent for General Contractor operating in Northern New Jersey. Must be able to estimate. Please state age, experience, and salary. P 7824, Engineering News-Record.

SELLING OPPORTUNITY OFFERED

WANTED: SALES Engineer to sell standard industrial buildings on commission basis, chiefly in New Jersey area. SW 7917, Engineering News-Record.

POSITIONS WANTED

EXECUTIVE ACCOUNTANT—C.P.A. (NY) offers broad experience in accounting matters, taxes and office management. Age 46. Excellent references. PW-7814, Engineering News-Record.

CIVIL, SANITARY, Engineer. Registered, single, M.ASCE, Education: B.S. in C.E.; C.E., M.C.E., M.S. in P.H.E. Twenty years, construction engineering, teaching, and administrative experience. Now completing work. Desire new connection. PW-7783, Engineering News-Record.

HARD HITTING Construction Superintendent available now, age 41, married and 2 children, good organizer; not afraid of hard work; can handle men and obtain good results; go anywhere in United States; specializing large housing projects. PW-7901, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT and engineer, 17 years experience as superintendent and engineer on all types of buildings, bridges and highways, good record and producer, sober, married, can furnish excellent references, prefer mid west location, write, Alvin Lee, Box 343, Alexandria, Minnesota.

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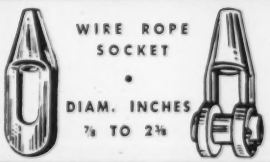

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Make	Model	Boom	Capacity	Power
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P & H	700	65 ft.	1½ yd.-20 ton	Diesel
Link Belt	K	50 ft.	1¼ yd.-15 ton	Gasoline
Link Belt	TC 90 (Truck Crane)	60 ft.	1¼ yd.-20 ton	Gasoline
Ohio	Locomotive Crane	50 ft.	30 ton	Oil Fired Steam

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30 ton 0-4-0 Standard Gauge Diesel 17000 Caterpillar

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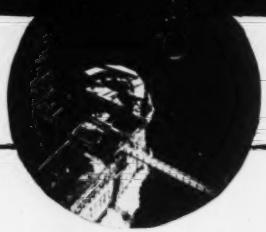

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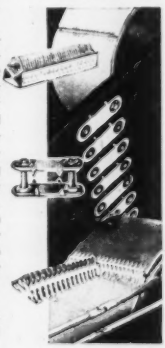
WIREGRIP precision made Belt Hooks come with extra (patented) blue aligning cards—are held more rigid, assuring perfect alignment of hooks—less hook loss from handling—a better job when applied with any make lacing machine. 6 sizes.



PLATEGRIP Fasteners for Conveyor Belts. Make strong dust-tight joints in belts, of any width. Spread tension uniformly across belt, allow natural troughing of belt and operate smoothly over flat, crowned or take-up pulleys. Sizes for belts from ¼" to 1½" thick. Easily applied anywhere.

STEELGRIP Flexible Lacing, applied with a hammer, clinches over and protects end of belt. Makes strong, flexible joints. Boxed with 2-piece hinged rocker pins or can be obtained in long lengths for conveyor belt use.

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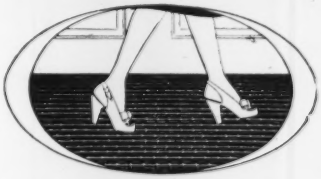
THE SAFE OPEN STEEL FLOORING IS TRI-LOK



No object over ½ square inch can pass through super-safe U-Type Tri-Lok Flooring. Fabricated without bolts, rivets or welds, it is unsurpassed for plant installation, walkways, loading platforms. Efficient distribution of concentrated loads . . . maximum free opening for light and air. Write for Bulletin JX 1140.

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WALLS • CYLINDERS • FLOORS • SEWERS

Irvington
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Note this difference

The illustration shows you how each wire and each strand in

Preformed Wire Rope

is preshaped to the position it assumes in the finished rope. As a result, Preformed lasts longer, handles easier, is safer to use, and saves installation time.

Take advantage of the savings Preformed wire rope offers. Ask your supplier about it. Then specify Preformed wire rope on your next order.

CONSTRUCTION BUSINESS

CONSTRUCTION AND BUILDING COST INDEXES LEVELLING OFF

	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Weighted Indexes										
ENR Construction	445	456	465	477	478	480	478	478	477	475
ENR Building	334	339	342	355	357	357	356	356	355	353
American Appraisal	485	486	493	495	502	504	502	501	...	...
Associated Gen. Cont.	326	332	337	340	341	341	341	341	...	...
Boeckh	365	373	379	384	388	391	391	390	...	...
Contractor Indexes										
Aberthaw	...	325	...	...	327	...	...	323	...	...
Fuller	...	...	378	...	...	389	...	...	390	...
Turner	...	...	427	...	430	...	...	430	...	...
Fruin-Colnan	384	387	387	387	390	391	391	391	...	...
Austin	...	314	...	...	322	...	...	322	...	...

All construction and building costs indexes definitely leveled off in the last four months, some even showing a slow but sustained downward movement. ENGINEERING NEWS-RECORD's cost index values for February are below January, down for the fourth month in a row. The indexes shown above are computed by varying methods: contractor figures reflect such intangible costs as productivity, overtime, and substitutions, in addition to material and labor price movements. Some are computed quarterly.

The high appeared in October for the two, ENGINEERING NEWS-RECORD indexes and American Appraisal; in November for Boeckh, and in January for the Fuller index. The latter was marginal, with a leveling off tendency. Aberthaw, the only contractor index that has turned down to-date, reached its high in September.

The February ENR construction cost index (200 hours common labor) is down .63 percent from the October high. The ENR building cost index (63.38 hours skilled labor) is down .85 percent. In December, the American Appraisal Co.'s index, based on average appraisal cost for four types of buildings in thirty cities, was down .6 percent from its October peak, while Aberthaw fell 1.2 percent from a September high. The latter is made up of 36 major cost items in New England, repriced using actual and estimated labor and material costs.

Seventh break occurs in lumber prices

Lumber, which has been a leader in the post-war inflationary spiral, has now declined 7.4 percent in price since last July, bringing about the first and only building materials price setback. ENGINEERING NEWS-RECORD's 20 cities lumber price average for this month is the lowest since September 1947. February's price drop from the previous month is more than twice the January-December drop, and has brought the materials component of ENR's cost indexes down 3.2 percent from the 1948 high.

Behind the accelerating price drop is a sudden change in the ratio of lumber shipment to production. Until the week ending December 18, shipments were less than the mills produced. Then production fell off noticeably and for a period of one month, the mills cut into their stockpiles while they awaited further price developments.

The shift back to an excess of production over shipments came in the week of January 22, spurred by a mounting backlog of orders.

A 10 to 15 percent drop in lumber prices before the end of this year was predicted by dealers recently at the convention of the Northeast Retail Lumbermen's Assn. in New York.

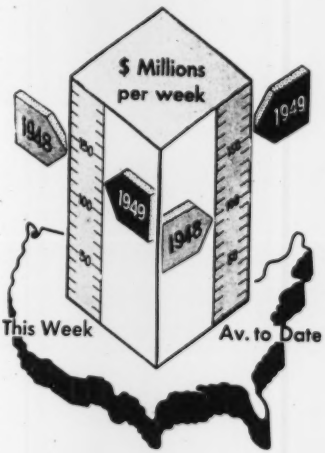
Roofing production down, costs may rise by summer

The current seasonal decline in roofing materials output may result in cost increases when contractors reach their business peak next spring and summer, according to spokesmen of the industry who met recently in Dallas, Texas. With stocks up and orders down, many dealers have been reducing inventories during the winter, at the same time that manufacturers curtailed production. The net result may not become evident until building recovers from the winter doldrums.

A probable 10 to 12 percent decline in roofing product sales this year has been predicted by F. J. McGinley, president of the American Asphalt Roof Corp. of Kansas City. Contractors, however, do not anticipate serious curtailment of their business during 1949, because of a substantial backlog of re-roofing which has been put off in favor of new construction.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Feb.'49	475.37	228.51
Building Cost	Feb.'49	352.87	190.75
Volume	Jan.'49	255	112



Activity This Week

As reported to ENR

Amount of contracts let

(Millions of dollars, continental U. S. only)

	Week of Feb. 10 1949	Cumulative 1949 (6 wks.)	Cumulative 1948 (7 wks.)	% Chge
Federal	$10.2	$145.5	$123.6	+37
State & Mun.	35.6	297.7	233.2	+49
Total Public	$45.8	$443.2	$356.8	+45
Total Private	85.4	463.5	342.5	+58
U. S. Total	$131.2	$906.7	$699.3	+51

Contracts by type of work

	This Week	Cumulative 1949 (6 wks.)	Cumulative 1948 (7 wks.)	% Chge
Waterworks	$4.2	$16.7	$27.4	−28
Sewerage	4.7	25.9	18.6	+59
Bridges	6.2	38.9	23.0	+97
Highways	9.1	59.0	89.1	−23
Earthwork, Waterways	6.6	58.9	64.6	+7
Buildings, Public	9.7	211.8	104.0	+137
Industrial	8.1	84.5	97.8	+1
Commercial	72.5	331.1	214.4	+80
Unclassified	10.1	79.9	60.4	+55

NOTE: Minimum size projects included are: Waterworks and waterway projects, $28,000; other public works, $50,000; industrial buildings, $68,000; other buildings, $250,000.

New capital for construction

	Cumulative 1949 (6 wks.)	Cumulative 1948 (7 wks.)	% Chge
NON-FEDERAL	$601.5	$316.6	+122
Corporate Securities	334.4	143.6	+172
State and Municipal	267.1	173.0	+80
Total Capital	$601.5	$316.6	+122

ADVANTAGES OF RAYMOND CONCRETE PILES NO. 6

complete satisfaction

OTHER ADVANTAGES: Uniform Bearing Capacity • Greater Carrying Capacity • Permanency • Engineered for the Job • Saving in Construction Cost

By the satisfactory completion of over 14,000 contracts ranging from a few test piles to 40,000 piles for one structure, Raymond has established a record of outstanding service to owners, engineers and contractors.

Producing dependable foundations has been the business of the Raymond Company for half a century. The more than 50 million feet of piling successfully placed is an indication of the world-wide confidence in this organization's ability.

FOR COMPLETE SATISFACTION . . . CONSULT RAYMOND ON YOUR NEXT FOUNDATION JOB.

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CONCRETE PILE CO.

Branch Offices in Principal Cities of United States and Latin America

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THE SCOPE OF RAYMOND'S ACTIVITIES includes every recognized type of foundation construction—concrete, composite, precast, steel, pipe and wood piles, open caissons, underpinning, construction involving marine protection, shipbuilding facilities, harbor and river improvements and borings for soil investigation.

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FOUNDED 1897 — 52 YEARS OF PROGRESS

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How TIMKEN® bearings help a scraper do its level best

SCRAPING and hauling 13 yard loads is rough, rugged work and to take the brunt of it, Be-Ge Manufacturing Co., Gilroy, California turns to Timken® tapered roller bearings. Timken bearings on the axles keep Be-Ge Speedhaul scrapers rolling longer with less time out for maintenance and lubrication. Moving parts are held in rigid alignment, friction is reduced, and power losses are minimized.

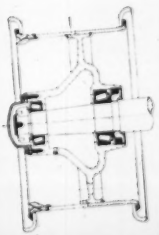
Timken bearings normally last the life of the machine. They permit the use of closures which effectively retain lubricant, keep out dirt, saving both maintenance time and material. And they take any combination of radial and thrust loads.

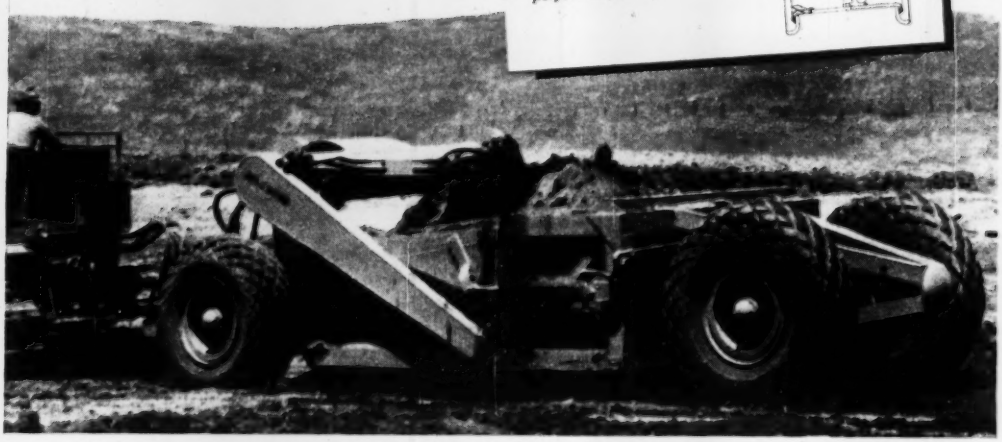
Timken bearings are manufactured from the finest alloy steel ever developed for tapered roller bearings . . . Timken fine alloy steel. Due to the line contact between rolls and races, Timken bearings have tremendous load carrying capacity. Their true rolling motion and incredibly smooth surface finish enable Timken bearings to operate freely, frictionlessly.

No other bearings can give you all the advantages of Timken bearings—backed by 49 years of bearing research and development. Use them on all the equipment you buy, build or repair. Look for the trade-mark "Timken" on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.

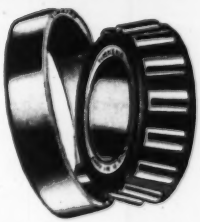
BE-GE SPEEDHAUL SCRAPERS *roll on Timken tapered roller bearings. Axle assembly maintenance is cut, wheels stay in perfect alignment.*





NEW TIMKEN BEARING CUTS RUN-OUT IN HALF!

Until now, the Timken "Zero" bearing has been the last word in bearing accuracy. Now Timken offers industry the "Double-Zero" bearing—*twice as accurate* as the "Zero"! Maximum run-out of the new "Double-Zero" bearing is only 75 millionths of an inch—*half* the 150 millionths run-out of the "Zero" bearing. What an opportunity for manufacturers of machines where extreme accuracy is essential! Available in standard single row types, up to 10" O.D. Write for further information.



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